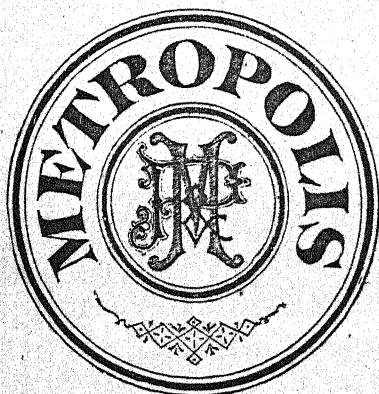


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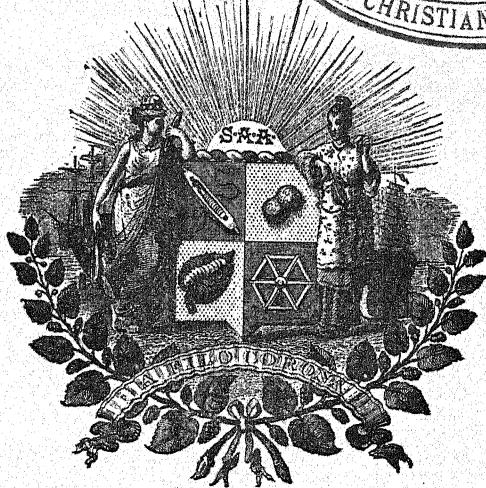
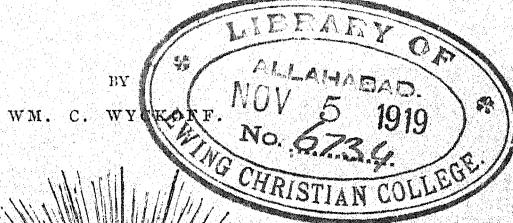
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THE  
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·IMPROVEMENTS AND ADVANCES  
OF  
SILK MANUFACTURE IN THE UNITED STATES.



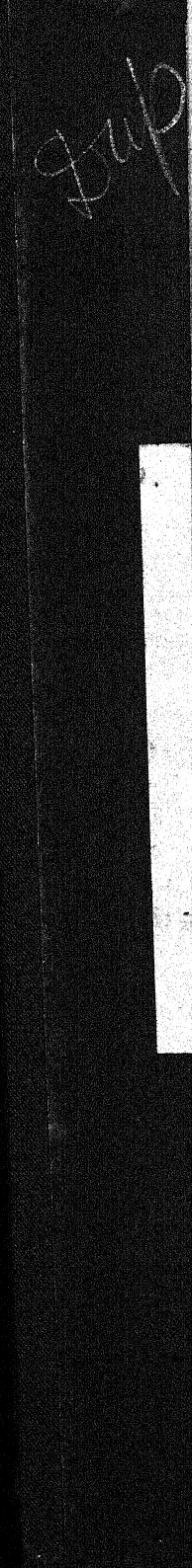
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## P R E F A C E.

The manufacture of silk goods in this country has been increasing in extent and variety for several years. In a few branches of this industry, the articles made here have so completely met the needs of the home market that importations from abroad have almost ceased. In certain other branches, our factories have barely effected a beginning, and the market is still controlled by imported goods. The great bulk of our silk manufacturing interests are in positions between these extremes, holding a tolerably secure footing on their own soil, but not yet freed from foreign competition.

Meanwhile the general public—the consumers of silk goods—have been slenderly informed concerning these changes, and especially as to the improvements in manufacture. Everybody knows that silk goods, both domestic and foreign, are cheaper now than formerly; but comparatively few persons are aware that the American goods are better as well as cheaper. That there is much general ignorance on this subject, may be shown in many ways; perhaps the most striking illustration is presented by the fact that nearly the entire product of some of our silk mills is still represented as of European make, in the final sales of the retailer to the consumer. In fact, our manufacturers have been obliged to make better fabrics than their foreign rivals, in order to attain standing in a market where imported articles held a long-established reputation.

It is time that the actual merits of American silks should be laid before the American public; and that in so doing, the whole trade should be

represented, rather than its individual members. With the hope of partially accomplishing that object, this book has been written. The field is a wide one, and the attempt is new; hence it will not be a matter of surprise if the harvest of facts has been imperfectly gleaned. In presenting this volume to the public, the author would be better satisfied with his work if it were nearly as excellent as the fabrics it describes.

W. C. W.

44 HOWARD STREET, N. Y.,

*July, 1875.*

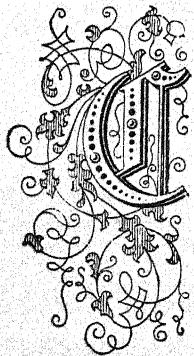


## THE SILK GOODS OF AMERICA.

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### I.

#### *Introductory.*



ENTURIES have been required for the development of the silk industry of Europe. The manufacture in this country dates its early successes nearly forty years ago, but its best work has all been done within a comparatively recent period. We shall have occasion in the following chapters to call attention to great improvements in the art of making silk goods, that have taken place within even four or five years.

Such progress is the more remarkable as occurring during a time of general commercial depression, while prices of all kinds of textile fabrics were declining, and while the demand for luxuries—in which all articles of silk are usually included—was notably diminished. Under these circumstances, the volume of trade was not greatly enlarged, but goods that were better in every way, and of a far higher and more difficult order of manufacture, were produced.

Many causes have combined in bringing about this result. The war of the rebellion stimulated most of our manufacturing interests by checking importations of foreign goods. During the period of inflated prices that followed, many new factories were built and the facilities for work were greatly extended. Direct trade with Asia across the Pacific Ocean and by rail from San Francisco, brought Chinese and Japanese raw silks to this market, of better quality and of lower cost than before, placing us more nearly on a level with Europe in respect to supplies of the raw material. When the so-called "hard times" came, people in general reduced their purchases of the more costly foreign silks. European manufacturers strove to meet the change by making cheaper and inferior goods; our manufacturers tried to catch trade by making better fabrics, since there was at all events no profit in the cheaper lines. The Centen-

nial Exhibition did good service by showing to hundreds of thousands of our people something of the advances in manufacture, and it helped to develop a spirit of patriotism that appreciates goods made here, as at least equal to those that are imported.

Meanwhile the introduction of the power-loom had started a general change and overhauling of the machinery employed. Our countrymen have been much more prompt than Europeans in this matter, substituting steam-driven machinery for the hand-loom upon each new kind of goods as fast as they were demanded. We now make all sorts of fabrics on power-looms, from gossamer veiling to upholstery brocatelle, and the uniformity of goods thus made, is, in itself, an improvement. The workers in the mills have also been learning, so that they waste less silk, and perform their labor more efficiently, in connection with the new machinery.

The most important of the causes which have led to the improvement of our silk goods remains to be noticed; it is the continuance of the tariff policy of the Government. If that had vacillated during the last ten or fifteen years, we should have had no story of improvement to tell.

The rapid changes of fashion, although at times inflicting loss on our manufacturers, are probably on the whole, a benefit. These changes compel improvement in the art. Any new, finer, higher grade of goods obliges the maker to perfect his labor as well as his machinery. Our people are also more enterprising than their foreign competitors in making changes of machinery required for novelties, and thus meeting the demand while a fashion is at its height. It is scarcely too much to say that extensive alterations are made in a week or two in our mills, which would not be effected for months at Lyons, St. Etienne, or Crefeld.

This enterprising haste to meet new requirements of fashion is characteristic of our manufacturers, and, not being confined to a few, results in sharp competition between them. Consequently the prices of these goods are not exorbitant. A different result takes place in a market that is solely dependent upon foreign goods, where one or two importers who happen to obtain just the things that are in demand, can safely insist upon the very highest prices.

It will be noticed when we come to particulars concerning various kinds of silk goods, that, parallel with their improvement in quality and the increase of their manufacture in this country, there has been a steady decline in their cost to the consumer. This is the legitimate result of

healthy competition here. It furnishes an unanswerable argument in favor of a tariff policy which protects home industry.

Since, however, our manufacturers have been continually obliged to sink money in enlarging their facilities, improving their machinery, and educating their work-people for their tasks; and since prices for all kinds of silk goods have steadily declined, it follows that the business has not been largely profitable. Manufacturers have mostly held their own, but have not reaped riches. The great benefits have accrued to two classes—the consumers, who have obtained better and cheaper goods; the operatives, who have had steady employment. It is pleasant to know that the work-people who have thus been benefited are of a higher class than the average. The work is cleanly, comparatively light, and is not hurtful in any way to the operative. Hence it happens that respectable parents who would object to having their families employed in other factories, are glad to have them busy in the silk mills. The contrast between the laboring classes of this country and of Europe is nowhere more striking than in this industry.



## II.

*Raw Silk.*

THE raw material of which silk goods are made, is not produced in this country. This has been the case since 1840, with the exception of a few scattered experiments of little profit and no commercial importance. There had been some business done in silk culture for many years before the date named, but it was swept out of existence by the ruin which followed great speculations in mulberry plantations and a wide-spread blight of the trees. In a large portion of the United States, healthy silkworms can be bred and reared by anybody who has time, patience, and mulberry trees at command. The sole difficulty is to dispose of the cocoons at a profit. The manufacturer of silk goods wants reeled silk, not cocoons. Reeling is the most important process in preparing the raw silk, the value of that article depending largely upon the way in which the reeling is performed. It is best conducted at a filature where cheap but skilled labor can be applied. There is no filature at present in this country.

Whether, under certain favoring circumstances, it would not be practicable to produce silk profitably in the United States, is an open question. A great deal has been said and written upon the subject. The most reasonable conclusions that have been reached, are to the following effect: It is not at all advisable to undertake silk-culture anywhere on a large scale. The industry is not likely to be profitable, even though conducted in a small way, if the culturist must first be at a considerable outlay for land and mulberry trees, or has to hire labor specially for the undertaking. If the women of a farming household could, in addition to their usual labors, rear silkworms; and if a sufficient number of families in a neighborhood were engaged in the business to produce cocoons enough to keep a filature busy, then capital could be easily found to build a filature and train its operatives. In any case it is not to be expected that the business would be highly remunerative,

though it might, if skillfully conducted, add a little to the income of many households in the Middle, Western and Southern States, after the first difficulties were overcome.

Of the raw silk now used in manufacture in this country, about twenty-four per cent. is shipped from Europe and the rest from Asia ; but some part of that imported from England, is of Asiatic origin. In Italy and France there are two classes of silk produced : "country silk," which is reeled in households and by primitive methods ; "filature silk," which has been reeled with skill and sedulous care in the filatures. The "country silk" is, of course, inferior, and very little of it is sent to this country, because it requires much labor to be expended upon it in manufacturing processes. The factories of Europe, where labor is cheap, can use inferior silk to better advantage than is possible in America. The silk produced in China is in the first instance, "country silk ;" to prepare it for this market, it has to be re-reeled. The Japanese now have filatures, and send us silk that is equal to the best of European. In Asia, as in Europe, the coarser and inferior silks are kept at home ; America gets the finest and best.

This result, as to Asiatic silks, has been slowly brought about. The Chinese are a people who cannot be hurried, and many years and no little effort were required to impress upon them the necessity of re-reeling to suit our market. The reels for this purpose were in the first instance made here and sent out to China ; their use was brought about by the urgent and repeated representations of American merchants there. The re-reeling is, however, not always well done. Aside from carelessness, which alone would deteriorate the value very largely, there is considerable imposition practiced in adulterating Chinese raw silk. Sugar, salt, rice, and acetate of lead are mentioned as among the substances used for adulteration. At intervals there have been brief periods when there was more care and less fraud in Chinese re-reeling ; at present there is a season of backsliding, and the "raws" are about as bad as they have ever been.

The Japanese have taken a different course. Within four or five years they have established a number of filatures, where excellent work is performed. The government has encouraged the work, and owns one of the filatures, where skilled operatives from Europe were employed at first, and native labor has since been educated. The result has been that while the

Chinese have improved a very little, the Japanese have advanced with singular rapidity, and their silk has taken rank with the best in our market. No fraud is attempted by adulteration in Japanese silks, and though there is, of course, some variation in their quality, their tendency is toward a uniformly higher standard. The amount of Japanese silk sent to this market is steadily increasing.

In European raw silk the variations of quality have been less important than those of quantity. The silkworm is a prey to numerous maladies, and is especially sensitive to weather changes during the brief season of rearing. The differences of product in good or bad years are enormous. The following table will illustrate these variations, and also indicate the striking effect of a disease called *pébrine*, which began to exhibit its force in 1864 :

ANNUAL SILK PRODUCTION IN ITALY.

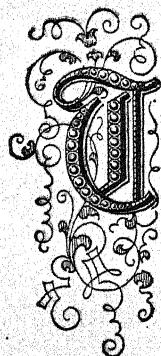
		KILOS.		
Before the malady,	- - -	3,710,000		
1863,	- - -	2,308,000	Diminution,	38 per cent.
1864,	- - -	1,731,000	"	53 "
1865,	- - -	1,762,000	"	52 "
1866,	- - -	1,800,800	"	51 "
1867,	- - -	2,000,000	"	46 "
1868,	- - -	1,900,000	"	49 "
1869,	- - -	2,150,000	"	42 "
1870,	- - -	3,180,000	"	14 "
1871,	- - -	3,473,000	"	6 "
1872,	- - -	3,125,000	"	16 "
1873,	- - -	2,960,000	"	20 "
1874,	- - -	3,430,000	"	7 "
1875,	- - -	3,073,000	"	17 "
1876,	- - -	1,010,000	"	72 "
1877,	- - -	1,853,400	"	50 "
1878,	- - -	2,650,000	"	28 "

As there has been a gradual increase of consumption of silk goods throughout the world, it may be fairly inferred that a like increase of the production of raw silk has taken place. But the variety in the size of crops in different countries in successive years has been so great as to mask the total increase. These fluctuations, carrying prices with them, so that the material is worth twice as much at one time as at another, are most pernicious to manufacturing interests. It is a singular fact that the

market for goods sympathizes only to a small extent with that of the raw material. When the value of silk doubled during the speculation of 1876, the price of a silk dress was scarcely raised at all. As a rule, the advance of cost of raw silk, when it does take place, is exceedingly rapid ; its fall is apt to be equally precipitate. While the high price lasts, it is a terrible oppression to the small manufacturer. When twice as much money is required to buy material, he can only purchase half as much, either for cash, or on credit ; and for a while at least, he must calculate to make goods at a loss. If the changes in value were at all permanent, the trade could soon be accommodated to them ; but a great speculation in raw silk is like a cyclone of wind and rain, that brings destruction instead of fertilizing the earth.

A marked change in the currents of trade has taken place since the opening of direct routes to Asia. In the raw silk business this has resulted in transferring to France the bulk of Asiatic imports, which formerly went to England. There are, however, great facilities for handling, selling and buying raw silk in London, and that city still holds eminence as a silk market. The amount of raw silk consumed in this country is not large enough to exercise control in foreign markets, and our prices are regulated by those of Europe. We can and do, however, purchase as cheaply in Asia as European buyers. Raw silk being a costly article of small bulk, the freight on it adds little to its cost, though to reach us it must come half way around the world. But the new routes of commerce bring us silk more quickly than in former years, making it cost less in insurance, in interest on capital, and in the risk of change of price while in transit. The importation of raw silk into this country was greater last year than in any preceding year, as will be seen from the following figures of receipts at United States ports :

	POUNDS.		POUNDS.
1870,	738,381	1875,	1,330,482
1871,	1,291,675	1876,	1,252,312
1872,	1,244,193	1877,	1,007,504
1873,	831,723	1878,	1,590,663
1874,	806,774	1879,	2,401,857



## III.

*Sewing-Silk and Machine-Twist.*

THE manufacture of silk thread in this country is a distinct branch of industry, which has wholly outgrown foreign competition. Its commanding position has not been, however, easily attained. A deep-rooted prejudice in favor of Italian sewing-silk was implanted in the breasts of our countrywomen. For a long while the products of New England mills could only be sold in the partial disguise afforded by labels and wrappers in some degree resembling those of foreign goods. To meet this prejudice, the leading manufacturers adopted as trade-names for their goods, words newly compounded for the purpose, and having Italian terminations. A curious memorial of that era is carefully preserved in the counting-room of a large East India importing house in this city. The relic occupies a space of 65 by 40 inches, and is quaintly painted in colored letters. It is a Declaration of Independence on the part of the silk manufacturers of this country. In no branch of the industry has the spirit of this declaration been lived up to so completely, as in the sewings and twist trade. Let us hope that in all other departments there may be before long a similar compliance with this most excellent resolution, which reads as follows :

1843—Oct. 13th—RESOLVED, that this Convention learns with deep regret that, as in other kinds of AMERICAN MANUFACTURE, it has hitherto been deemed necessary to attach the FOREIGN LABELS, English, French and Italian, to the excellent sewings and fabrics of our own SILK MANUFACTURERS, in order to command a ready sale in our city markets, superior as these sewings and fabrics are known to be, in strength, texture and durability to the foreign articles.

And we earnestly recommend to OUR SILK MANUFACTURERS, now in the infancy of our enterprise, to set a GOOD EXAMPLE to their brethren in other manufactures, by attaching *their own name to their own goods.*

The trade-marks of the four most prominent silk manufacturers of that day, ornament the corners of the board which bears the foregoing legend.

At first, American sewing-silks were made exclusively in skeins, and they were introduced by being carried from door to door and sold to actual consumers. The methods of testing the qualities of the silk were primitive. The buyer would pull and hold up a thread to ascertain whether it was likely to kink, for the sewing-silk of that day was not always properly twisted. Then followed an examination by drawing it over the finger-nail, to detect the dirt and slugs which were not rarely left in inferior grades. The final test was by comparison with some thread already known and approved. This was effected by taking a thread from each of the two kinds to be compared, and crossing them so that each caught the other in a loop. A vigorous pull then broke one or the other, usually at the point of crossing, and was regarded as determining which was the stronger. Even as a comparative test, this method was not very trustworthy, since a hard-twisted thread would cut one of looser texture, even though the latter might be somewhat the stronger.

At a later period it became customary to test sewing-silks by means of a clumsy machine; a sort of steelyards having a heavy ball attached to a lever. According to the strength of the silk, it was capable of pulling the ball so that a pointer moved through a less or greater segment of a circle. This contrivance has been greatly improved. The pointer now remains at the place on the scale where the pull breaks the silk, and hence fixes the record of strength. The whole instrument is far more compact than formerly; it is usually accompanied with a winding-machine, and the two together occupy a box less than a cubic foot in size. This box forms an indispensable part of the equipment of the traveling agent of a sewing-silk manufacturer.

The sewing-machine was the means of a revolution in this branch of business. The consumption of thread of all kinds has been enormously increased by that invention, and sewing-silk shared in the enlarged demand. But when sewing-machines were first introduced, the silk thread then made was not specially adapted for use upon them. The shuttle of the machine did not always pass through the loop that was carried down by the needle, and hence a stitch would be dropped at intervals. At length, after many experiments, the discovery was made that this defect could be obviated by making the thread in a different way. The newly-

invented thread, which serves its purpose perfectly, was denominated "machine-twist," and it still retains the name, which is sometimes abbreviated to "twist."

The distinction between "sewing-silk" and "twist" is of kind as well as of degree. Sewing-silk, often designated simply as "sewings," consists of two threads twisted from left to right; that is, it has the twist of a right-handed screw. Machine-twist is made of three threads twisted from right to left, and is usually of a harder, closer twist than sewings. The latter may be put up either in skeins or on spools; machine-twist is always spooled. While sewing-silk cannot well be used for the sewing-machine, "twist" can be employed for a great variety of purposes besides that for which it was devised; it has taken the place of sewings to a considerable extent, and this substitution is still going on in different manufacturers. Merchant-tailors and other makers of clothing are now almost the only users of skein silk.

The real excellence of thread and its service to the consumer, depend in no small degree upon its regularity of size. Elsewhere in this volume are specified the chief causes which occasion a want of uniformity in the thickness of fibre of even the best raw silk. The first thing done by our manufacturer after opening his bales, is to sort this raw material into four or five lots of different sizes of fibre. To illustrate the range of variation, we may say that of raw silk of the finest sort, five fibres may go to make one of the three strands that are put together in a thread of machine-twist; while of coarser raw silk, two fibres would make the thickness of one such strand. If composed of thick and thin fibres mingled, the strands would not twist uniformly. Silk of thin fibre is comparatively the most desirable. For obvious reasons, the greater the number of fibres composing a thread, the better it will be in respect to uniformity, roundness, smoothness, and probably, strength.

After being sorted in approximate sizes by skillful hands, the thread is duly twisted and wound upon bobbins. By an ingenious arrangement of machinery that need not be described here, the thread is cut off in even lengths of, say  $333\frac{1}{3}$  yards—that is, three lengths to 1,000 yards—and these lengths are temporarily made into hanks, usually called "skeins," to be weighed or "drammed." Now comes the nicety of the business; every skein is weighed with the utmost accuracy, the most delicate weights and weighing apparatus being employed. As the skeins are weighed,

they are sorted accordingly, upon a long series of hooks, each hook taking all the skeins of a given weight as registered in ounces and hundredths of an ounce. In adding dyestuffs, an allowance has to be made for the difference thus occasioned in the size of the thread. Where a twist of different character is to be employed, that too is to be considered as an important element in the size produced. These allowances, in the best factories, are not mere guess-work or rule of thumb ; they are absolutely calculated on mathematical principles.

As was before stated, the consumer of the silk gets the benefit of all this sedulous care. The reason why two large knots are usually to be found in each spool of a thousand yards of otherwise perfect sewing silk or "twist," will now be apparent ; they join the skeins. It would be far easier for the manufacturer to make each spool-full without a knot ; but then the thread of a single spool would itself, probably, be of uneven thickness.

Finally, the spooled silk is put up in one of two grand divisions ; either as yard-goods or as ounce-goods. In general it may be stated that the yard-goods are sold by the yard, irrespective of weight. These constitute the majority of the spools sold at retail by dry goods and fancy goods dealers. The ounce-goods are sold by weight, which is stated on the spools in ounces and ounce-fractions ; the thread is mostly used for manufacturing purposes ; and the makers of shoes, corsets and clothing prefer silk thus put up, because it is on large spools that do not have to be so frequently replaced as smaller ones, on the sewing machines.

As long ago as 1867, one of our manufacturers conceived the idea of making a "pure dye" machine-twist. At that time there was no definite understanding between members of the trade as to what purity in dye should signify. All agreed that the making of heavily-loaded silk should not be encouraged, but there was a notion that the thread might receive some benefit from dye which had astringent properties, and that if less than a certain amount of this dye were used, the silk would be weaker. The reasoning which led to an opposite conclusion was founded on observing that coarse white (silk) thread was preferred by the makers of fine shoes, in sewing up the backs, it being found better for this purpose, and more easily worked, than black silk. Evidently, more silk will be supplied to a given thickness of thread, where there is little dyestuff than where there is much ; the needle will be more nearly filled by silk

alone, and hence the hole made by the needle (which is necessarily larger than the thread) will receive more silk. The hole will be better filled with a material which expands as silk does, than if part of the thread were mere dyestuff. Hence superior work might be produced with pure dye silk, even if the comparative strength of the thread were thrown out of the question. Careful experiment showed that after removing the natural gum from a pound of raw silk, and thus reducing it to twelve ounces, an ounce, or at least three-fourths of an ounce of dye must be used to render the silk of a satisfactory black. There is still some difference of opinion in the trade as to whether one ounce of dye to twelve ounces of pure silk, or four to twelve, will give the most serviceable thread in proportion to cost. Of these two kinds the first is known to the trade as "13-oz. dye" or "pure dye;" the second as 16-oz. dye" or "standard." Into the merits of this controversy we do not propose to enter. In the "standard" goods, the dyestuff exactly replaces the natural gum which has to be removed before the silk will receive color, and it is argued that the dyed thread is therefore just as strong, weight for weight, as it was when raw; perhaps even stronger, if the dye has the effect on silk that tanning does upon leather.

The standard of purity of American sewing-silk has been very conscientiously adhered to, and this, no doubt, largely helped in the struggle to obtain the market originally held by foreign thread. Quite recently there appeared in an English newspaper, published in a town where there are still the remnants of a considerable silk industry, an urgent appeal to the manufacturers of silk thread in that locality, pointing out the injury that over-weighting had done to their trade, and suggesting the adoption of the American standard of dye. In that essay it was indicated that from 18 to 25 ounces of thread were usually made in England from a pound of raw silk, and we may well believe that this estimate is not too high. Scarcely any of the European thread equals, and none of it excels our own, in purity.

When manufacturers had determined to sell a pure or standard dye silk, a necessity arose for convincing customers of the superior value of the article, since it could not be afforded for sale at the price of heavily weighted thread. A system was at last devised which has gradually recommended itself to both makers and purchasers, and is now generally accepted by the trade. It consists in fixing the value of any given specimen of silk accord-

ing to its length and strength. It is evident, if we have a thread of such strength that it will pull a weight of five pounds before breaking, that the same thread if doubled will sustain ten pounds. Therefore 1,000 yards of thread of 5-pound strength is exactly equal to 500 yards of 10-pound strength, or to 333½ yards of 15-pound strength, and so on. This equality can be easiest shown by multiplying the strength and length together, which will in these instances give the same product, 5,000. It is assumed that the figure obtained by such a multiplication will always serve as a ratio of value. Let us apply this ratio to fix prices for a heavily weighted thread 1,000 yards long; we will say, silk that has been doubled in weight by the process of dyeing. If it is sold by the yard, the price need not be changed, since the number of yards remains the same; the maker gets the same sum of money and the buyer gets the same amount of real silk as if there had been no adulteration in the dyehouse. If the thread be sold by the spool, the bulk will be doubled by the extra dye, two spools will be made of it instead of one, and (estimated by the ratio) each spool will be worth half as much. If again the thread is sold by weight, only half the price can be demanded per ounce, as compared with a standard article.

The trade having widely recognized the truth of this theory, it is customary in making a considerable sale of silk thread, for the salesman to bring out his little testing-machine, show the length per spool in yards and the strength in pounds, multiply the figures thus attained, and exhibit them as evidence that the goods equal or surpass a given standard. If two samples are to be compared, the rule of three is usually employed, thus :

	PULLS.	LENGTH.	OFFERED PRICE.
SAMPLE A.	5 pounds.	1,000 yards.	\$8.00 per dozen spools.
SAMPLE B.	4½ pounds.	950 yards.	\$7.50 per dozen spools.

Which is the cheaper? The problem is worked as follows :

$$(5 \times 1,000) : (4\frac{1}{2} \times 950) :: \$8.00.$$

This gives as an answer, \$7.22; showing that the price at which the sample B is offered is about four per cent. higher than that of A. The fairness of this system is indisputable; the purchaser certainly has no reason to complain, since, by it, a manufacturer who overweights his silk gets nothing for the superfluous dyestuff. Its effect is to encourage the making of the purest grades of silk, by securing for them a proportionate

price. Obviously, if loaded silk is sold at the price of that which is pure, the purchaser buys mere dyestuff—metallic salts—at the price of and instead of silk. In general, white and colored thread is not loaded; but black can be adulterated by an unscrupulous maker, to the extent of trebling its weight. The system of comparison above described also serves admirably in determining the price for thread of different degrees of strength and fineness. The range in this respect is very wide; there is machine-twist made (for the use of harness and trunk makers, and other workers in leather) that will pull 30 to 35 pounds; but its length to the ounce may not be more than 175 yards. In the other extreme, there is thread for stitching ladies' ties and light work in general, that will measure 3,000 yards to the ounce, but is scarcely capable of pulling two pounds. Some of the consumers of machine-twist have discovered, that in an emergency, they can obtain a thinner silk thread by untwisting the machine-twist, and using its three separate strands, after waxing them slightly. Before closing our account of the method of testing by length and strength, we should mention that it does not distinguish between thread that is perfect in finish, color and cleanliness, and that which is in such respects inferior; hence it can only apply after making allowance for any existing differences of that kind.

Endeavors have been made to introduce for popular use, chemical methods for determining whether silk thread is heavily weighted. In the hands of a chemist such tests should be conclusive, but quantitative analysis is not easily performed by those who are unskilled in the arts of the laboratory. Excessive adulteration can, however, be readily detected by burning the thread and observing its ashes, or by rubbing it, after moistening, between the fingers. Less reliance can be placed in tests depending on the solubility of dyestuff in an acid.

The colored silk thread produced here is not surpassed in delicacy, brilliance, and permanence of hue. The variety of tints that may be called for, is almost infinite, and the manufacturer is obliged to sort and classify different shades, with painstaking accuracy. This is, in at least one instance, effected on a strictly scientific basis. The text-books of science did not afford the data for such a classification, and the manufacturer deserves credit for working out this difficult problem by his own research and study. A brilliant display of colors rendered the cases of sewing-silk and twist most attractive objects in the Centennial Exhibition.

But various as may be the hues which each mill turns out in the regular course of work, a further variety is called for by customers who wish to match new or special shades of goods with similar thread. A few days suffice for this purpose. If we were dependent upon European mills for silk thread, and had to send to them to match a given shade, the probability is that the color itself would be out of fashion before the thread of the required tint could be ordered, made, and imported.

Improvements have been made from time to time in the machinery for producing sewings and twist. Of these we can only offer a brief notice, since a technical description might be wearisome. There is a useful contrivance called a "stretcher," which pulls out the component strands of a thread so that they are brought to an even thickness. This is of importance, because if there is one strand thicker than another, it will "ride" in twisting, and the thread will be defective. It is claimed by those who use the stretcher that no thread made with it is of second (or inferior) quality, so far as the work of the mill is concerned. Before the stretcher was used, a considerable amount of labor had to be employed in cutting out threads of irregular thickness and tying them on bobbins where they would be better matched; all this, it is said, is now avoided. The "cleaner" in ordinary use consists of two edges of metal, between which the thread is passed, to catch fluff and slugs. There is a new cleaner, in which the thread goes around a series of spindles, so as to rub against itself, and by such friction get rid of its superfluities. There are measuring machines attached to various parts of the machinery; one of these, in spooling ounce goods, determines exactly the length of every ounce of thread; so that the silk on each spool is of definite size, length and weight.

The spools themselves are greatly improved. One manufacturer, who makes his own spools, believes that he can identify them anywhere, without looking at their labels, as he claims that there is a certain finish and smoothness about them which no other spools possess. Near the factory there are hundreds of cords of white birch stacked under cover, to dry. The wood comes from the forests of Maine, and requires one or two years of seasoning before it can be converted into spools. Printing upon the spools instead of upon labels to be attached to them, is now generally preferred. Three or four different patents have been issued for inventions to meet this object. A machine costing \$650 to build will print about

100 spools in a minute ; they pass through a hopper, are centered by a rod, and then the printing-dies stamp in the lettering. Good spools are a necessity to secure the best work from the sewing-machine ; if, for instance, the wood shrinks after the thread is wound upon it, the delivery will be irregular. The superiority of spools made in this country has attracted the attention of European manufacturers, and some of them have spools for their own goods made and printed here.

A curious custom has grown up in the sewings and twist trade, of presenting cabinets to large buyers of goods. These structures are often elegant and costly ; they are used to display the goods, and are elaborately made of fine woods and plate glass, with numerous drawers and compartments. Some of the handsomest have cost \$350 apiece, and several have been presented that were worth \$250 to \$300 each ; a \$50 one is not at all unusual. These values, it will be observed, are the cost of cabinets to the silk manufacturer, who orders a number at a time ; a single one made to order would be a much more expensive piece of furniture. There is a tacit understanding with the recipient of such a gift that he will continue to buy goods from the manufacturer who presented it ; to use it for goods from any other mill would be deemed dishonorable. The cabinet is given on the first sale to a new customer, and its value may be as much as ten per cent. of the goods purchased on that occasion ; but the cost of these presents on the part of a large manufacturer is not estimated as over  $1\frac{1}{2}$  per cent. of his total sales. Nevertheless, the burden of this custom is a heavy one ; a single firm estimates that it has expended \$150,000 in such gifts. The practice is not wholly indefensible, since the goods would in any case have had to be put up attractively, and the cabinet, in a large dry goods house, serves the purposes of an advertisement. There are many indications that extravagance in cabinets has passed its highest point, and the custom might be entirely abolished if manufacturers would make and keep an agreement on the subject.

The competition of the makers of silk thread is, however, exceedingly keen, and agreements between them are short-lived. Although they have entire control of the home market, and have excluded the foreign rivals who once had possession of the field, our manufacturers have never been able to obtain high prices for their goods, or secure more than a slender margin of profit. The consumer has had the chief benefit from every improvement in this branch of industry, and prices are lower

at present than they have ever been before. Small as are the profits, they seem sufficient to turn the mill-wheels. The large concerns say that the only reason they can do business at a profit, is because their trade is extensive and varied enough to enable them to work up all their material into the sizes that the raw silk is best suited for, instead of being obliged to average it in favor of sizes that are most in demand; thus they make a more uniform thread, and to better advantage, than where the sizes are not matched so accurately. On the other hand, the proprietors of the small mills claim that by more careful economy, lighter expenses, and less of costly display, they can compete with their mighty rivals.

When it is considered that sewings and twist are, in the main, staple articles, little dependent upon changes of fashion; that the duties upon them are one-third less than on silk fabrics; and that their raw material—which is the larger part of their cost—is brought hither from the other side of the world, it seems surprising that European manufacturers, with far greater advantages for making the goods, and with a long-established reputation for their sewing silks in this country, should have utterly lost our market. But nobody who compared the displays of our own and the foreign spooled silk at the Centennial Exhibition, could help noticing the inferior appearance of the European goods. They looked coarse. The colors were out of date, or wanting in taste. The thread showed the need of the modern improvements. Probably the chief reason why Europeans have in this instance lost their trade here, is because of the greater quickness of our people in adopting improved methods of manufacture, such as, for instance, making "twist" for the sewing-machine. Changes that might seem insignificant in a coarser kind of industry, in this become important; an alteration of method or machinery that prevents a little waste may make just the difference of profit or loss in the production of a mill. Our manufacturers use better raw material, adulterate it less, and employ better machinery in making the thread than ever before. The writer is assured by one of our largest concerns that they are preparing to sell American machine-twist in Europe, being convinced that this can be done at a profit.

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## IV.

*Weaving—Preparatory Processes.*

AMERICAN manufacturers are obliged to use the best of raw silk, as a simple measure of economy: To explain this singular fact, we must give some details. The material which comes to this country from China, Japan, Italy or France, for the use of our manufacturers, is known as "raw-silk." It has been reeled from cocoons, and perhaps re-reeled, before it was started on its ocean voyage. There are great differences in the quality of cocoons, dependent upon the breed of the silk-worms, the climate in which they are reared, the food and care they receive, and other circumstances affecting their health. The irregularities thus occasioned in the quality of the silk may be largely avoided in the countries where the silk is reeled, if the cocoons are very carefully sorted before reeling, so that all of each grade of silk shall be brought together. There is found on the outside of every cocoon a considerable amount of light thread, containing more or less roughness and impurity, and in general, unfit for reeling. This ought to be stripped off entirely, and accounted as "waste silk," but some of it occasionally finds its way to the reel, in inferior grades of the raw material. When a filament that is fit for the reel has been reached, it is found that this filament is itself uneven in strength and thickness, the exterior layers being weaker and thinner than those nearer the insect. It is the business of the experienced reeler to put a thread of an even thickness and strength upon his reel. To do this, he may have to unite four, five or more filaments, from different cocoons, in a single thread; the number of filaments depending on their comparative thickness and the size of thread required. So much, indeed, depends upon the skill of the reeler, that we may be perfectly certain that a careless or inexperienced hand will produce thread which varies in thickness so as to be of little value, even if it does not contain dirt, rough knots, or tangle. At the best filatures, all that is possible is done, by watchfulness and care, to avoid these defects, and produce thread of approximate uniformity.

"I date," says one of our manufacturers, "the first great step in recent improvements, at the opening of the overland route, which brought us raw silk direct from Asia. Before that time we got from there only the silk which Europe rejected—the refuse of the markets. Since that route was opened, we have had the choice of the market, and now the very best comes to this country."

The contrast between the raw silk used here and that which serves for making the same kind of goods in Europe, is very striking. What our manufacturers would regard as "poor silk," worth perhaps one dollar per pound less than the best, would be accounted very fair silk for delivery to the European weaver. The reason on the part of our manufacturer for choosing the best raw material, at a necessarily higher price, may be very easily stated; his experience has taught him that the best is cheapest. All the processes, from first to last by which an inferior article can be made to appear equal to that of a higher grade, are costly in labor.

In any case there are about a dozen distinct processes which raw silk must undergo to prepare it for the loom. We will name these in their order:

<i>For Organzine.</i>	<i>For Tram.</i>	<i>For both Organzine and Tram.</i>
Assorting.	Assorting.	
Winding.	Winding.	
Cleaning.	Cleaning.	
Spinning.	Doubling.	
Doubling.	Spinning.	
Twisting.	Dramming	
Dramming.	.....	
.....	.....	Dyeing.
Winding.	Winding.	
Cleaning.	Cleaning.	
Doubling.	Doubling.	
Warping.	Quilling.	
Picking.	.....	
.....	.....	Weaving.

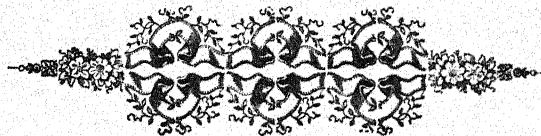
In each of these processes except dyeing, imperfections in the thread cause loss of time and material. Suppose, for instance, that the raw silk, as imported, is uneven. That is to say, the continuous thread which is

to be wound upon a spool, is found to be of irregular thickness as it unwinds from the reel. Such a thread is stronger in some parts and weaker in others. What happens? Probably the thread breaks in the first winding from the reel. The winding machinery stops automatically, and perhaps a portion of the thread which is weaker than the rest has to be pulled off and thrown aside as waste silk. Then a knot must be tied, and the winding goes on again. But if the raw silk is very irregular in thickness, a similar accident can happen in any of the subsequent processes ; a loom may have to be suddenly stopped ; it is always the same story—breakage, stoppage, waste of time (labor) and of material. The loss of time, when machinery, running at high speed, has to be stopped, becomes a serious matter, from the mere fact that there is no production during the stoppage. “It costs,” said a manufacturer, “fully five times as much to tie a knot in this country as in France.”

To eliminate, so far as is possible, defects of this class, silk is subjected to a series of sortings between the steps of its progress from the cocoon to the loom. The importance of the correct sorting of raw silk is so great that a considerable portion of the recent improvement in our manufactured goods is traceable to the fact of our receiving from Asia at the present time stock that is more carefully assorted in respect to sizes. In former times there would be found all sorts of sizes in a package of raw silk, and almost the only distinction set forth between the parcels was, that one was for “tram” and the other for “organzine.” (The warp threads are organzine ; the woof or “filling” is tram.) At the present day it is recognized by raw silk producers that if the material is not properly assorted, it is not fit for the American market. Our manufacturers also take more pains than formerly, to make their own sorting of the raw material fairly accurate, previous to the first winding. Moreover, at a later stage, but before they are dyed, the threads are weighed with exactness by a mechanical process called “dramming,” and sorted again. The precise weight which a piece of goods will have when it is woven, is calculated and known beforehand. By means of such care, the manufacture is conducted with greater economy ; the consumer reaps the benefit in goods that are better because more uniform, and at the same time cheaper.

One of the preparatory processes that precede weaving, has been mentioned as “picking.” This consists of spreading out every thread of the

warp separately, examining it with the utmost minuteness, and removing all knots, slugs and irregularities. A large number of slowly moving threads are spread out like a huge fan, while keen eyes are bent upon them, and nimble fingers seize and extract the imperfections. The contrast between higher and lower grades of silk becomes very apparent when the threads are thus spread out. In the very best silk, scarcely anything like lumps on the thread will be visible to an untrained eye ; in inferior silk, such defects are numerous and of comparatively large size. In Europe, where weaving is mostly done by hand, picking is part of the business of the weaver ; he stops his loom at any moment to remove a knot or slug from the thread as it is woven. He is expected to turn out goods free from defects of this character. The system here is entirely different, and it is necessary to have all the threads of warp and woof as perfect as possible, so that there shall be no stoppage in the operation of the power-loom.



## V.

*Black Dress Goods.*

ONLY three years ago, one of our oldest manufacturers made the following statement in the course of a conversation: "I scarcely hope to live to see plain black dress silks made in this country. There is no prospect of it at present. A great improvement in our manufacture would first be required, and I do not think it is possible with our comparatively high-priced labor."

The earlier successes that paved the way to the present manufacture of these fabrics, were won—with some exceptions—in producing goods of lighter hue and varied texture. It seems at first sight a paradox that plain black dress silks should be harder to make than the most elaborately figured goods. The reason is, chiefly, that the plain fabrics show every defect; and trifling variations in the mere thickness of a thread, which would be quite imperceptible in goods that are overlaid with ornament, become strikingly apparent in an article of uniform surface. To secure a perfect equality in the threads, every one of them must undergo minute supervision; and this cannot be effected by machinery alone, it requires skilled labor—the most costly thing in America.

A reduction in the cost of raw silk might be expected to lower the prices of imported goods, and thus make a competition with them more difficult than before. But in fact the reduced cost of raw material has enabled our manufacturers to make experiments that formerly were too expensive to be tried on a large scale. Their success with a great variety of new goods had already given them means and confidence for fresh ventures. They had learned the conditions under which to use the power-loom to the utmost advantage, and the machinery as well as the processes had been greatly improved. One of the most curious and important results attained by the practical experiments of manufacture, is that because of the high price of labor here, it is most profitable to use

the best of raw material ; and hence a reduction in the cost of that material proves a more important factor in the total cost of the goods, than would be the case if inferior stock were employed.

Our factories have gradually become better equipped and better organized : while at the same time their owners have learned new art. But this is by no means all. The operatives themselves have been learning, and have become—unquestionably—far more skillful. They waste less. We are assured that each loom now turns out one-third more of finished goods than it did a few years ago. The saving is effected in two directions ; less time is consumed and less silk is wasted. This is probably the chief cause why some of our mills are now making fine dress silks at a profit.

There have been, however, very marked improvements in the machinery used in silk manufacture. Concerning these, we need not enter into technical detail. Most of them consist more in developing the capacity of machinery for various kinds of work, than in inventions wholly new. More important than all else is the substitution of the power-loom for the older method of weaving. The product of the steam-driven machine is, of course, mechanically accurate. When all the work of weaving was done by hand, labor dictated its own price and retarded development in this manufacture. The business of the silk mill was then, to a certain extent, at the mercy of its operatives. Now, the employer finds himself at liberty to make goods to suit his customers, and as he can calculate the cost with greater certainty, he is encouraged to attempt improvements in his fabrics.

The system of manufacture in Europe is entirely different from that which has grown up in this country. Judged from our point of view the European manufacturer seems rather to be a mere contractor. He buys tram and organzine—*i. e.*, filling and warp—which have been made at a separate factory. He sends this material to another establishment, a dye-house. Finally, he puts it out to weavers who have looms at their own homes. He has no factory and no machinery. Under such circumstances it is not surprising that there is little improvement in machinery and methods, from year to year. Our manufacturers have been obliged, on the contrary, to concentrate the work, so as to keep every portion of it under direct supervision. In several of our larger silk mills all the different processes referred to are conducted beneath a single roof ; so that the raw silk becomes finished goods under the eye of the manufac-

turer. In some instances these mills have within their walls, rooms provided with all tools and machinery for their own repairing and carpentering work ; a few make nearly all their own machines. There is a marked disposition to try improvements in this country, and it is the general experience that the very best machinery, though at first far more costly, is in the end decidedly the cheapest.

The European manufacturer derives certain advantages from his system. A considerable part of his product is made to order, thus relieving him of the risk of originating goods of new design which may or may not find favor in the market. He is not obliged to start with a great outlay for mill and machinery ; this leaves him free to employ his capital in purchasing yarns, and he usually buys and stores in his warehouse enough to supply his weavers during an entire season. It seems evident, however, that the division of the processes between three or four separate establishments, throwsters, dyers, weavers, and, probably, finishers, must imply an added cost in a profit to each. The American system is largely a consequence of substituting machinery for manual labor. The work of the power-loom is definite and positive ; it is not liable to defects such as happen to hand-made goods if the weaver's hand is unsteady in throwing the shuttle, or if he is careless in using the number of picks required by the pattern. Of course such defects can be to a great extent avoided by a very careful inspection of the fabric as it comes from the weaver's hands ; but there is certainly room for the belief of our manufacturers that the power-loom goods are more serviceable to consumers because more uniform and therefore more durable. Many minor improvements in the machinery have also contributed to this result within a very few years.

It is estimated that from a fourth to a third of the plain silks and a much larger proportion of the brocade silks which are consumed in this country, are now made here. As most of our manufacturers did not undertake in earnest the work of making broad silks more than four or five years ago, this may be regarded as fairly rapid progress. The advance in this branch of manufacture within three years is greater than in any other department of our silk industry. The marked feature in the production of these goods has been their comparative freedom from adulteration by heavy weighting in the dyehouse. Several of our mills are winning for their goods an admirable reputation in this particular. The constant effort of European makers has been to meet a falling market with fabrics

that appeared as good as formerly, but could be sold cheaper because really inferior. Here, for the sake of obtaining a foothold in the market, it was necessary to make goods as free from weighting as possible. The adulteration is usually performed in dyeing the yarns, before they are woven, and it is fully within bounds to state that all European broad black silks, with the exception of perhaps a very few of the highest priced, are thus doubled or trebled in weight. When heavily loaded, the fabric gives little satisfaction to the consumer. Sometimes the superfluous dye-stuff shows itself after a few days' wear, in spots and blotches; sometimes the dress begins to look greasy or rusty; before long it frays and breaks in the folds, and then the ruin is complete. It had become a proverb that "buying an imported silk is like purchasing a ticket in a lottery."

A humorous article in the Hartford *Courant*, recently described "The Black Art in France," as follows:

The principal substance used for weighting the silk is iron. It is repeatedly bathed in nitrate of iron until it acquires the desired weight of that metal. Then it gets a blue tint from prussiate of potash, and then several baths of gambier and a treatment with acetate of iron. At this stage the silk is lustreless and dead; but never say dye (enough) is the rule, and so it is made bright and lively by a logwood bath and large quantities of soap are added. Now comes the important question, whether the silk shall be of the soft and satin sort or stiff and rustling. For the former it gets a little oil and soda; for the latter, acid.

And then we have our finished goods consisting, to summarize, of iron, soap, gambier, potash, logwood, oil, soda, etc., etc., with silk. The two cardinal defects in black silk are the "wearing shiny" and the cracking. The former comes from the natural action of the soap and alkali, which together develop a sort of grease under friction; the cracking is simply the inability of the little silk to carry its great load of the other products of industry that are spread upon it. It is asking too much to demand that the few strands shall act as iron mine, soap factory, and chemical laboratory all at once and stand the wear of practical use besides. These are requirements before which the English attempt to make a grocery store out of a shirt pattern is a simple and ordinary matter.

Under the French treatment of silk a "little will go a great way" undoubtedly, for it goes thousands of miles—to the American market; but it is about time the women of the country should know what they are buying when they buy these goods. Those women, who persist in believing they are buying tin when they get sheet iron with an infinitesimal coating of tin over it, and consider themselves cheated when the iron begins to show, may still believe they get silk when they get this mass of black and melancholy dye-stuff, mourning as it were for a lost silk-worm; but, so long as they do, they are doomed to discover that black silks will not wear well. The iron will prevail.

Most of our manufacturers claim that their broad silks are of the highest standard of purity. They invite a comparison on this point. We quote from the instructions to buyers which accompany some samples:

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"Please compare this silk with the best French goods, by raveling out a few of the threads from each. Test their comparative smoothness and strength by passing through and breaking over the fingers. In heavily dyed silk the particles of dye will make the threads feel rough and lumpy to the touch. Then by wetting the lint from each separately, the goods weighted by dye will be readily distinguished by the dye coming out under pressure.

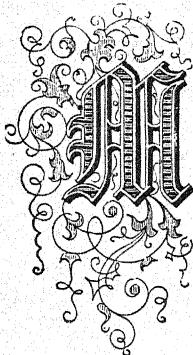
"Another simple but effective test of purity, is to burn a small quantity of the threads. Pure silk will instantly crisp, leaving only a pure charcoal; heavily dyed silk will smoulder, leaving a yellow, greasy ash."

Perhaps the most convenient way of applying the first of these tests, is to chew the filling thread of the silk to a pulp, and then to squeeze it in a white handkerchief. But though convenient, the method is objectionable as a matter of taste, where weighted goods are thus tried; though a person in the habit of wiping his pen in his mouth might not find the loaded silk disagreeable.

American dress goods cannot be expected to win full reputation on their merit at first, since they are not made to wear out in one or two seasons. But already they are acquiring a very good name. A few weeks ago a lady was trying to match a very old and very excellent piece of imported black silk, at one of our largest dry goods houses. The salesman, after carefully examining the sample, expressed a doubt about being able to match it. "It is first-rate silk," he said, "and I think it is of American make; it is better than the imported." One of our more sanguine manufacturers declares his belief that within ten years the dress silks of this country will bear a higher reputation than those made anywhere else in the world.



## VI.

*Various Piece-Goods.*

UCH of what has been said of the improvement in plain black dress goods applies also to a great variety of more ornate and varied fabrics. The production of figured dress silks has attained large development within a very few years. In these articles, raw material usually bears a greater proportion to labor than in thinner fabrics. Hence in the history of improved manufacture, these goods began to be

extensively made here before the plainer ones were so generally attempted by our weavers. The designs are mostly original, and rarely take anything more than a mere suggestion from abroad ; they change with every season's fashion, both as to color and pattern. Most of the alterations in design involve a considerable expense in adjusting Jacquard machinery ; they are made almost without exception on power-looms. No mere description can do justice to the beauty and variety of these fabrics. Owing to improvements in manufacture and the excellence of the raw material, they are firm and serviceable, and at the same time marvellously cheap. They are adapted to a taste which eschews everything gaudy and extreme, while delighting in delicacy of design and purity of color. The earlier Jacquard machines used by our manufacturers in producing these goods, were imported from England or France ; the mechanism now in use is wholly made here, and is especially adapted to our requirements. The Jacquard machines remain the same in principle, but we are now able to run them more smoothly, to apply them to more intricate patterns, and to obtain from them a higher speed.

In producing grenadines and satins, the improvements have been equally striking. Goods are made which combine features that were once entirely distinct. Thus, for instance, at first sight it would seem that nothing could be more widely separate in manufacture than the open web of grenadine—a fabric which might be likened to lace—and satin, whose smooth, impervious surface might class it with close-woven cloth. But

the ingenuity of the weaver has long since bridged the gulf between these fabrics, and produced grenadine with satin stripes. Then came a further combination, adding a brocaded pattern which permeates both the network of the grenadine and the sheeny surface of the satin. The effect of these and other combinations is in general to give "richness" to the fabric, and perhaps to justify a remark which foreigners have made as a criticism—that "Americans don't seem to be afraid of their silk." Neither the operatives nor the machinery of former years could have produced the finer grades of damassé dress goods, and the combinations of gros-grain, satin, brocade and grenadine which may now be required by fashion. To classify these various combinations and describe the different results separately, is, if not outside of the scope of the present work, at all events beyond the ability of its writer.

In some of the older families of this country there are preserved a few specimens of early attempts at making satin goods from home-raised silk. A comparison of those relics with the products of the present day brings the improvement into clearer light. The thread which makes the surface of satin or brocade, is now more thoroughly tied down than formerly; in the best goods it no longer "floats" when the fingers are drawn across it. A solidity and evenness has been conferred on the fabric, which renders it at once more compact and more durable. While they were in fashion, some excellent upholstery satins were made here and found ready sale. They attracted attention from foreign visitors—experts—at the Centennial Exhibition, and were highly commended in respect to color and finish. These were decidedly "broad goods," being fully sixty-four inches in width.

We should like at this point to say something about velvets made in this country; but at present it would have to be as brief an account as the famous chapter on the "Snakes of Ireland: There are none." A few velvets have been made here at intervals, and in different localities. Good judges have spoken well of these specimens, but the manufacture has not yet been found profitable. There seems to be an opportunity not yet seized, for the invention of labor-saving machinery in the production of silk velvets, since the old methods of making them are slow and very cumbrous.

The process which is called "finishing" or "re-finishing" is of great importance in preparing piece-goods, and is, as its name implies, the final

operation. It is itself a distinct branch of business, and requires special machinery as well as knowledge and experience. The "re-finisher" has succeeded in demonstrating to most of our smaller weaving concerns, and also to some of the largest, that this work can be better done in an establishment devoted to the purpose, than in the regular silk mill.

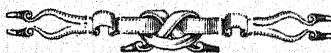
Heavy calendering machines and hydraulic presses of 300 tons' power are used in re-finishing silk fabrics. The pressure has to be variously applied, according to the effect required, and the calender rolls can be graduated from a squeeze of five pounds to one of 60,000. There are some goods that have to go through hot rolls and some through cold; and differences in the surfaces of the rolls may convert plain silks into striped ones, or change them to *moire antique*. Brocades, fancy silks and satins must undergo the re-finishing process, as well as gros-grain. Indeed, the effect is more striking with figured than with plain goods. A brocade flower, for instance, in passing through the proper amount of pressure, gains a definiteness of outline and a pictorial character that were previously wanting. Satin requires the highest pressure to bring out its full lustre, and though the most difficult of fabrics to manage in finishing, it best repays the labor. With many fabrics, a liquid dressing has to be applied to the surface, and in some instances a fire-box must follow the dressing in order to dry the liquid so quickly that it will not strike through to the other side.

The re-finishing business began with imported goods. These are sometimes damaged on their voyage, and require to have their freshness renewed. A more frequent occurrence is that the fabrics need to be modified so as to meet a change of fashion. In some seasons ladies have wanted their dresses to have a certain crispness, and then they required "hard silk;" at other times only the silks which feel softest in handling, could be sold. Either of these results can be reached in the finishing processes, which have immensely improved within a very few years. American silks are found to need a treatment different from that which is suitable for imported goods, and the best method could only be ascertained by new experiment. The results now will bear comparison with foreign work, and a business has been created which will, if it continues, justify its experiments and outlay.

No difficulty is found in producing in this country excellent marcelines, florentines, serges, satin de chine, and the various fabrics used for linings.

Only a small portion of the thread is floated in serges, but it adds to the variety in their colors and patterns. Promptness in adopting any new ideas as to the style of these goods has given our manufacturers some advantages over their foreign rivals, but the chief point made is, that the American linings wear longer, because they are of purer silk. This is another instance where excessive loading with dye-stuffs and the use of inferior raw silk, on the part of European manufacturers, have so hurt a trade as actually to reduce the consumption. There is now, however, a marked revival of confidence in respect to such fabrics made here; and as to those which are imported, European dyers have offered to stipulate for goods to be guaranteed as of equal purity with the American.

One of the evidences of deterioration in foreign silks which is most generally recognized by the public, is the difficulty of obtaining a silk umbrella that has lasting qualities. The rapidity with which these articles split in the fold and resolve themselves into sticks and rags, has been of late years quite abnormal. But there is reason now to hope for better things. At least two of our manufacturers have successfully undertaken to solve the problem of making umbrella silk that will last two years or more—instead of as many months—with ordinary usage. The fabric which seems best adapted for this purpose is known to the trade as “levantine,” and is specifically different from taffetas and serges; from the latter it may be distinguished by the absence of stripes in the warp. American weather is rather hard on umbrellas, but some of them, made here from ferule to handle, have survived the equinoctial storms of successive years, and are still fit for service.



## VII.

*Spun Silk.*

HERE are two distinct methods of treating the product of the silkworm. If the filament of the cocoon can be unwound from it as a continuous fibre, it is reeled, and is known in commerce as "raw silk." If for any reason the filament of the cocoon cannot be reeled, it must be spun. The raw material which is to be manufactured into spun silk, bears the general name of "waste silk."

Some popular misapprehension has arisen from the use of the term "waste," as applied to this raw material. It suggests the erroneous notion that the foundation of spun silk goods is a kind of shoddy. Nothing could be farther from the fact. Shoddy is a material obtained by tearing into fibres, goods previously manufactured. That process is not applicable to silk goods, and no shoddy is made from them. After raw silk has once been twisted into a thread, it cannot be torn asunder and produce anything of value.

Actual fibre is required for spun silk, though not of such length and continuity as that which can be reeled. Even if the manufacturer of spun silk makes use of a low grade of "waste," he is not able to spin from it anything but the fibre, and the simple result when he uses inferior stock, is that he must take a much larger quantity of it to provide a given amount of useful silk. The residue, which has no fibre, is of no service in manufacture, and is all loss.

There are several sources of so-called "waste" silk. Perforated cocoons furnish the chief supply. These have been pierced by the moth, which exudes a fluid that softens the thread at one end of the cocoon so that there the insect can push its way out. There are also cocoons of irregular formation, from which the silk cannot be wound. Another large source of supply is known as "filature waste" or "frisons." This consists chiefly of the tangled thread or floss on the outside of the cocoons, and the waste made in winding from them. Lastly, there is "mill waste," which is raw silk more or less broken or tangled in the earlier operations of the silk mill. The only essential feature which distinguishes waste silk from other raw silk is its want of continuity of fibre,

which prevents its being reeled. It has to be straightened and ungummed, and then is carded and spun by methods similar to those employed with flax and cotton. When this is done, the spun silk is of about the same value as reeled silk in the gum. Waste silk, indeed, kept its price during the whole of the past year, during a period in which reeled silk fell in value at least 25 per cent.

The processes of manufacture in spun silk are just as delicate and trustworthy as those of cotton spinning. The material passes through a series of different machines, some of them marvels of ingenuity ; and when ready for spinning, looks like the whitest of combed fleeces, except that it has a brilliant lustre, similar to that of spun glass. It is then of such perfect uniformity that the thread to be made from it can be produced with absolute mathematical accuracy, of any required size. This uniformity, which can always be depended upon, gives more durability to a fabric than if it were wholly made of reeled silk.

Great improvements have been made in the manufacture of spun silk, so that the goods are better than formerly, in every respect. The best effects are obtained by using the lustrous reeled silk to give the surface of the fabric, and the spun silk to give the body. In some European goods that have recently come to this market, the arrangement is reversed ; they have a spun warp and reeled filling. The object in these cases is to secure a dead surface with a lustrous figure ; and a stiffness of fabric is also attained, which is supposed by purchasers to be an evidence of good silk. These fabrics supply a fresh indication that spun and reeled silk are more and more becoming interchangeable factors in the manufacture ; a condition to which their near approach in values contributes.

Since almost every variety of fabric that is made with reeled silk has its counterpart in articles more or less composed of spun silk, it follows that the direction which fashion gives, controls both equally. The novelties called forth by a season's transient demand must be produced in time for that occasion, by the spun silk manufacturer. For this purpose, however, he does not copy foreign designs ; at most those can only offer to him general suggestions. It has been found, in fact, that copying is rarely profitable ; the most marked success has frequently attended the production of purely original designs. The risk of such novelties falls wholly upon the manufacturer ; he can only rely on his own judgment and his general knowledge of the tendency of the prevailing fashion.

It is claimed for fabrics partly or wholly made of spun silk, that they fill a place of their own in the market. They supply a cheap and at the same time a serviceable material. The purchaser gets silk that is pure—not loaded with dye-stuff. There are only two methods of making very cheap silk fabrics; one is to weight the material with chemicals that will give it weight and showiness in general, hiding its want of actual silk. Such goods give little satisfaction to the wearer. Their defects soon become apparent; "there is no wear in them." The other method of making cheap silks is to substitute spun for reeled silk. By such means goods can be made that are fairly within the reach of slender purses, and will do good service to the wearer; goods that can be sold as cheaply as are the weighted fabrics. Spun silk *can* be adulterated with heavy dyes quite as easily as reeled silk; suffice it that such is not the practice here. All the spun silk fabrics made in this country are what are classed as "pure dye;" the pound of raw material coming from the dyer's hands with no additional weight except what is requisite to give a good color and body to the fabric.

The improvements that have been made in the management of spun silk in manufacture are such that its comparative want of lustre is far less apparent than was the case a few years ago. Especially is this true of the products of the Jacquard looms, the brocades and damassé silks in general. White and very light brocades, such as are suitable for ball and wedding dresses, are among the most recent and ambitious efforts of this manufacture. They are of absolutely pure silk, and are so lustrous that even an expert would not be able to distinguish them from reeled silk fabrics, except by a critical examination. The advantage to the purchaser of such goods may be briefly stated: in appearance and actual worth for wear, they are equal to brocades that are selling at \$3 to \$4 per yard; they are sold at half those prices. Fashion seems now tending toward heavily flowered brocaded silk, such as used to adorn our grandmothers.

A feature of this branch of business is the production of printed goods. In this the improvement of recent years is very striking; satins, for instance, printed in colors, have to the eye the same richness of effect as if they were made by the more costly process of the Jacquard looms. In Europe, printing is done with little blocks, a few inches square, which are slowly and more or less imperfectly used in hand-work. Here, ingenious machinery is employed, printing many colors at once.

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machine for this purpose requires a special steam-engine to drive it, in order to have it under absolutely accurate control as to speed, pressure and registry. Patterns that cannot be perfectly matched by hand, may be turned out faultlessly by such machinery.

Ribbons known to the trade as "schappe," which are wholly of spun silk, were first made in this country. Now, they are largely produced abroad, the Swiss giving us the compliment of imitating our designs and labels. The foreign ribbons make a good appearance, but their stock is inferior and they do not wear well. If made abroad of equally good quality, ribbons of this class could not be sold here at a profit.

The raw material that enters into silk fabrics in this country would be considered extravagant in European manufacture. It is an unquestionable fact that there is more silk for the same money in American goods than in those which are imported. We compete to more advantage in the heavier fabrics than in the lighter ones, because in the latter the labor is the chief item of cost. But we are also the gainers in competition for trade in heavy goods, because of a deservedly better reputation. The popularity of silk goods had been seriously endangered by the practice of weighting, and dress silk in Europe no longer holds the place that it did as an elegant and permanent fabric. So far as American buyers have been dependent upon imported silks, the same distrust has extended here. It remains for our manufacturers to overcome that distrust by continuing to supply goods of standard purity. We now surpass European makers in the durability of our silk goods. A permanent command of our own market is to be attained chiefly by the good reputation of our fabrics, and by keeping them up to the standard. But not for a moment can the manufacturer safely rest on his laurels; he must ever design novelties, adopt or invent improvements, and anticipate the constant changes of fickle fashion.

Spun silk no longer hides itself behind other goods. It claims equality, on the ground that durability and uniformity make up for whatever may be wanting in lustre and beauty. The deficiency in these latter features is now very slight; in some classes of goods it is scarcely discernible. Spun silk fabrics are not made or sold as cheap imitations of reeled silk; they stand on their own merits, and are just what they profess to be; a durable and low-priced, not a poor or adulterated article.

## VIII.

*Handkerchiefs, &c.*

NTIL comparatively recent years the use of silk pocket-handkerchiefs was regarded by most people in this country as extravagant luxury. The possessor of such an article was seldom willing to admit that he had purchased it ; it had been presented as a Christmas gift or a token of affection. It was only brought out on grand occasions, and when somewhat wornout was carefully treasured for use in giving the finishing touch when brushing a silk hat, or for a yet more important service in case its owner should happen to contract a severe influenza, and find his nostrils more than usually tender.

The more general use of silk handkerchiefs in the United States began about eight years ago, and was largely accelerated by the Centennial Exhibition. These goods were entire novelties to thousands of visitors from all parts of the country. One manufacturer is said to have sold, at that Exhibition, not less than 25,000 handkerchiefs, all of a single class, and generally of two or three colors. Some of the visitors from far distant States were rough-looking customers. The father of a family, for instance, was going about without a coat ; perched on his shoulder was a child, about four years old ; two daughters accompanied him, just ripening into maidenhood, and so bashful that they scarcely dared to touch the goods offered for their selection. "I've come 1,500 miles to see this show," said the father, as he laid down a \$50 bill, preparatory to purchase. Each member of the family chose handkerchiefs of a different pattern, and as if laying in a stock to last some years. When those people went home and showed the goods to their neighbors, they created a demand for silk handkerchiefs in that distant locality. This instance of the creation of business by the Exhibition, is only one of thousands that were not so circumstantially noted. It is calculated that the whole trade in silk handkerchiefs was advanced at least two years, by the Philadelphia display ; the total increase of sales since 1873-4 being now nearly five-fold.

At the present time the handkerchief—whether for women or for men

—most frequently starts in its career of usefulness as a dress ornament, a scarf, a neckerchief. When partly soiled, or after its first washing, it usually descends to the pocket; though some of the inferior grades are apt to serve as a mere necktie, and even as a substitute (at the West and South) for the collar, being cooler, cheaper and more convenient. Its various uses and its low price have doubtless given the silk handkerchief its popularity, and the consumption of these goods was not diminished during the hard times from which the country is now emerging.

These articles, made in this country, have only recently acquired their good reputation. Not much more than five years ago a leading buyer of silk handkerchiefs declared in so many words, "I don't want any American goods;" and at that time a retailer could scarcely be induced to put them on his counter. Now, it is not unusual for a purchaser to ask for American-made handkerchiefs, and the prejudice against them has wholly disappeared. The complaint most frequently urged against the foreign goods was that they were too flimsy. The handkerchiefs which best meet the demand here have been more substantial and solid. Brocade handkerchiefs are often made with four or five different colors; the patterns change rapidly with fashion, though one of them had a run of two years. The figures of these goods have a notable hardness to the touch, being well bound down in the process of weaving—a result of improvement in machinery and in the arrangement of the harness of the loom. Printed handkerchiefs have also been greatly improved and share the general favor.

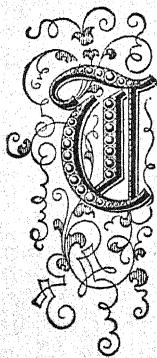
It is not a long step from handkerchiefs to scarfs and neckties, and millinery goods in general. The variety of texture in these fabrics is to a novice almost appalling. The foundation may be as open as grenadine, or of the closest weaving; and the combinations with satin and brocade figures are endless. Most of this branch of industry has come into existence here within a very few years. One manufacturer describes its growth as starting, in his experience, with making stuff for men's neckties like the Crefeld goods, of silk warp and cotton filling, about the years 1869-70. Many hardships were encountered in creating the business. The first lots when sent out to the trade, to be cut up into ties, were returned to the maker as wholly unsatisfactory. After various trials, he resolved to cut up the goods in his own factory, and he afterwards gradually established a trade in the completed neckties.

The fashions change so rapidly in millinery goods that it is only in rare instances that an article has a long run. The looms must at frequent intervals be overhauled and harnesses be changed to produce novelties. These rapid changes scarcely give opportunity for perfecting the methods ; better goods of any given kind could doubtless be made with longer practice. The expense of the needed alterations is heavy, and adds to the cost of the fabrics which fashion specially demands. On the other hand, if there seems to be a good prospect for steady sale of a special article, many mills will be set at work upon it, and a sharp competition will reduce the price. Between these rocks the producer of millinery silks must steer or be wrecked. In Europe there are fewer difficulties of this kind to be avoided ; there is far less enterprise in preparing for novelties, and a considerable proportion of the goods is made to order.

Since our manufacturers are willing to make these quick changes to meet fashion, they gain thereby an advantage over foreign rivals. A purchaser who buys his millinery silks abroad for this market must expect to get many patterns and shades that will be comparatively unsalable, along with those which hit the fashion. Mere consignments from abroad, not selected by American buyers, are largely of styles that are no longer in request. In either case the importer expects to close the season with auction sales and sacrifices. Meanwhile the American manufacturer can stop his production of any given article as soon as there are symptoms of its becoming unfashionable. It is not easy to estimate whether the importer or the home manufacturer has to take on the whole the greater risk. It will be seen, however, that the stock of American goods is more likely to be in the fashion than those which come from abroad.

The standard of taste gradually becomes higher and more exacting in this country, and the changes we have referred to call for constant improvements in the arts of manufacture. The fabrics of three years ago appear to-day so inferior that we wonder how they could have found sale. But though the goods have improved so greatly, their prices are lower, and in this branch of the trade as in others, wherever the home manufacturer has somewhat supplanted importation, a home competition has kept down the cost to consumers.

## IX.

*Ribbons.*

THE manufacture of silk ribbons in this country was of lowly origin. About the year 1861 it began with taffeta ribbons, plain, and of the broader widths. It was undertaken not as a regular manufacture with a view to direct profit, but merely as a matter of convenience to fill deficiencies in importation. When, for instance, there was a lack of taffeta ribbons of a blue shade, that color happening to have been more in demand than usual, the importer thought it possible that the needed supply might be secured more quickly here than it could be ordered and obtained from abroad. So the early manufacture was a mere experiment, with the hope that it would make the imported stock of ribbons more desirable by filling the gaps. There was no idea of competition with goods made in Europe. Of course, it always happened that whatever was most fashionable, and hence most desirable, was the first to become scarce. Two or three months would be required to fill a given line of goods by importation ; two or three weeks might be time enough to make them here.

So, the experiment being tried and often repeated with success, a regular manufacture was at length organized. But for a long while only the broader ribbons were made, because the narrow goods require the most labor in proportion to the amount of silk. Stated in round numbers, the broad ribbons first made were at least 40 lines in width. Only within three or four years have the narrower ribbons been attempted ; now, seven lines in width is not unusually narrow for manufacture here. A line is the twelfth of an inch.

The high price of gold during the war-period operated almost as a prohibitory tariff, and checked the importation of foreign ribbons. This gave an opportunity to our manufacturers to organize their work, and stimulated them to found mills and buy machinery. Different

classes of work were successively undertaken. The order of development of the industry has been somewhat as follows :

Plain ribbons, taffeta.

Plain ribbons, gros grain.

Satin ribbons, single-faced, plain.

Satin and gros grain ribbons, double-faced.

Two-toned satin ribbons—*i. e.*, satin with two colors, one on each side.

Fancy ribbons, Jacquard work.

Some of the relations of these different articles to each other may be mentioned as showing the line of development. The gros-grain ribbons were an outgrowth from taffeta, by making the filling more heavy. The two-toned satin touched the highest point in harness-work (*armure*). The demand for ribbons of such a high order indicated that the more elaborate productions of the Jacquard loom would find favor. Harness-work is by its nature limited to patterns that are more or less right-angled in their details; Jacquard work can follow any curve of outline, and has been employed for all sorts of pictorial reproductions, such as leaves, flowers, birds, landscapes, portraits, &c. Pictures in silk, produced by machinery of this sort before the eyes of the visitors, were among the most attractive things of the Centennial Exhibition. Fashion has required, within a year or two, a variety and richness in patterns, unknown before; and the weaving of Jacquard ribbons has thus been fully developed here.

All the ribbons now made in this country are the product of power-looms. This is not true of European manufacture. We began, however, by buying English power-looms: these were rapidly improved upon, so that the good points of French, Swiss, and German methods of weaving were reproduced in our more rapid machinery. Such quick adoption of any improvement, no matter where originating, is characteristic of this country; it is rare in Europe, because there the people of each nation have a prejudice against methods that to them are foreign. Having now the best power-looms in the world, our mills turn out ribbons that are of a perfect uniformity, the same in one part as in another; a result that could never have been attained by the most careful hand-work.

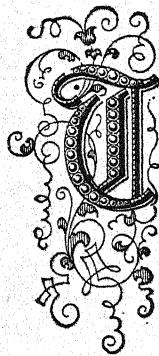
The market for our ribbons was not obtained without difficulty. They were at first derided as "domestic trash." The entering wedge was

found in supplying special colors. The tables are so perfectly turned now, that it is only inferior ribbons—principally schappe and taffeta—that are imported in any considerable quantity. The foreign manufacturers compliment us by imitating American tickets, trademarks, and designs. “Have you anything new in broché ribbons!” asked one of our countrymen of a Lyons manufacturer. “Alas!” was the reply, “You can make in America anything that we can.” As fashions generally originate in Europe, it might be supposed that foreign designs would be followed in this country. Such, however, is not the fact. The styles that originate abroad are made up usually, to suit several different markets; they are rarely intended for America alone. Our goods on the contrary are made exclusively for the home market; the ribbons must suit the taste of American ladies. The guidance of foreign fashion can only be followed in a general way, and not often in its great extremes of pattern or color. Nearly all the designs for American ribbons originate in our factories, frequently months in advance of the introduction of the goods into the market. These designs have excited admiration abroad as well as at home; they are works of the artist rather than of the mere artisan. The novelties of pattern and design compel changes and improvements in machinery; and better goods result.

The statements which have been made elsewhere in this volume, of the comparative purity of American silk goods in respect to freedom from heavy dye, and as to superiority of the raw silk used, are applicable with special force to the ribbon manufacture. The loss of trade in foreign ribbons must be in large measure attributed to their being over-weighted, and of inferior silk. This is, of course, most noticeable in black ribbons, and our manufacturers have taken the opposite course with great success, their gros grains being remarkable for purity of dye and strength of stock.



## X.

*Trimmings and Passementerie.*

HERE are several minor divisions of the trade in fringes, trimmings and passementerie. Of these the most prominent are—

Ladies' dress and cloak trimmings,  
 Millinery trimmings,  
 Hatters' and furriers' trimmings,  
 Upholstery and military passementerie,  
 Coach trimmings.

We shall not, however, adhere very closely to these distinctions. In regard to the most important class of fringes, it should be mentioned that their manufacture begins in the mills where sewing-silk and machine-twist are made. What is called "two-thread fringe silk," is sewing-silk, and "three-thread fringe silk" is machine-twist. The "fringe silk" is put up in large skeins and sold to the makers of fringes, who are classed as manufacturers of trimmings. The marked success that has been attained in this country in making sewings and twist, applies also to fringes, and for the same reasons. The raw material is much better than that used for such purposes in Europe, and there is far less adulteration practised here in dyeing. Our manufacturers can in this branch of trade, as in others, afford to use good stock, because it gives less waste, can be worked more quickly, and altogether requires less labor, than inferior material. The improvements of machinery have also helped in making better fringe silk.

In this instance, our goods have, to a great extent, obtained the reputation that is their due. The retailer has learned to say to his customers, "If you want the best, you must buy American fringes." The chief defect in imported fringe is its want of durability, due to overloading with dye, or soap and other substances used to give an appearance of solidity. Fringes made of French cordonnet or schappe silk are especially liable to such adulteration. When worn, they become rotten by exposure,

and soon drop off the garment to which they are attached. European fringes are usually made of cordonnet, and very rarely of good sewing-silk; the reverse is generally true of the American goods. Ladies have learned, in purchasing, to test the strength of fringe by pulling out a thread and breaking it. The simple methods of testing whether the silk is overloaded with dye-stuff, which are described in the chapter on dress goods, will also serve to detect adulteration in fringes, some of which (imported) have been found to weigh eighty ounces to the pound of actual silk!

It used to be considered necessary where great elegance in dress was required, to have this class of trimmings selected in Paris. Now, however, it has ceased to be true that "They do such things better in France." The fringe may be required to match a given dress, which itself is a novelty in color and structure; in general the changes of style have continually called for more elaborate and difficult work, and our manufacturers have responded to the demand by successive improvements. There are still a few of the more elaborate fringes, made by old, laborious methods in Europe, which have not been reproduced by our quicker machinery; but they can be made here whenever they are called for sufficiently to warrant the outlay. It is calculated that a sixth of all the raw silk imported into this country is absorbed in making fringes and passementerie.

Furriers as well as modistes require for their productions silk trimmings of various kinds, including fringes, tassels and cords. The tassels made for ladies' garments are wholly of silk; those meant for other purposes frequently have a core of cotton. Of cords there is a great variety, for many different purposes; a hatter, for instance, requiring cord of a style wholly unlike that which would be needed for trimming a dressing-gown; there are now made double-faced cords, braided cord, and tubular braid, which would have been beyond the capacity of our factories only a few years ago. Many varieties of braid are used for the purpose of ornamenting fringes. Crochet and other passementerie buttons are made in this country to a limited extent, but the business is not profitable except where specialties are demanded, because the duty on imported button-cloth is exceedingly low.

It may be stated in a general way that comparatively few goods of the foregoing classes are now imported, except what are called "ladies'

passementerie," which may be described as a sort of gimp or garniture made of cord and frequently ornamented with beads.

A sermon might be preached concerning the black braid that is more or less used to trim the edges of men's cloth coats. Several years ago, such trimming was very fashionable. The makers of the braid—in Europe—saw fit to adulterate it largely, and succeeded in getting into it more dye-stuff than silk. The public gradually made the discovery that silk braid did not wear well, soon becoming brown, frayed, and generally shabby. Men began to insist that there should be no braid upon their coats. The result was, as expressively stated by a dealer, that "the trade in black braids was as dead as Julius Cæsar." At this point one of our manufacturers undertook to make a pure braid out of good sewing-silk. The new article had to encounter all the prejudice which the old stuff had created. There was imported braid that could be sold for one-sixth of the price of the American goods; yet the latter slowly won their way in the market, and have secured a demand which is at present steadily increasing.

The manufacture of upholstery, military, church and coach trimmings, including specialties for benevolent and secret societies, has for many years had a firm footing in this country. There is an almost endless variety of such goods; among them are braids, cords, bindings, tassels and passementerie beyond all enumeration. There was a time when all articles of this kind came from England; but that period has almost faded out of recollection. They are made here because ingenious machines have been contrived that largely dispense with hand-labor. The action of some of these machines seems almost life-like; fingers of steel spring out and catch the moving strands, and turn, twist and combine them in the most marvellous way. In one great factory where most of this work is carried on, there is a complete machine shop, where the mechanism that performs these marvels is constructed, and a measure of secrecy concerning it is thus attained. A "cord-walk" is there, of dimensions comparable with the old-fashioned rope-walks, where a large order for a new style of cord can be executed in two hours. As to the variety of designs required in the business, a single example will suffice; the record of manufacture includes a thousand different patterns of coach laces.

Among small wares, the article called "knitting-silk" may be included, though it is made by the sewing and twist manufacturers. It provides an

excellent pastime for ladies, enabling them to knit silken hose, mitts, &c., in otherwise idle moments. To what extent knitting-silk will take the place of the proverbial "green lion on a red ground" in Berlin wool, it is of course impossible to say; at present the new diversion is growing in favor rapidly. The material is soft and fine, somewhat like embroidery silk, and slightly twisted. It is wound on spools, but so amply that they look more like balls. A box of these contains a large variety of colors and delicate shades. This silk is to be knitted with the ordinary knitting needles, and many Boston ladies have become very expert in the performance. As the labor of knitting is not to be accounted, it will be easily seen that a neat article for a present can thus be made at small expense to the giver; about two ounces of silk, costing perhaps \$1.50 to \$2.00, serving for a pair of stockings that could not be purchased ready-made at less than \$5 to \$8. We foresee a time when a favorite clergyman will be provided by his flock with stockings as well as slippers.



## XI.

*Silk Laces.*

THE manufacture of silk lace is so recent in this country that its whole history nearly falls within the ten-year period which we have arbitrarily taken for review. The business has, however, in a single instance expanded sufficiently to give employment to some hundreds of working-people. Their labor is light so far as muscular effort is concerned, but requires dexterity, good eyes, and assiduous care. A large amount of damage may be effected in a few seconds by carelessness or incompetency.

The raw silk used in making lace must be of the most uniform character, and hence a preference is given to that which has passed muster in the conditioning houses of Europe. According to the kind of lace to be made, the thread has to be of a definite thickness, which ranges for different laces from "singles" or merely doubled cocoon-threads, up to substantial silk yarns. The raw silk is converted into "singles," yarns, &c., in this country, at mills that make a business of "throwing" silk, but not at the lace factory.

In other fabrics, holes are a defect; in laces the holes are the chief element of beauty. In plain laces and nets the outline of the holes or spaces determines the class of the goods; and regularity in the form of these apertures is the first thing that strikes the eye. The figures of the more elaborate laces may be said to be formed by the process of filling some of these holes according to a pattern. To these general statements there are certain exceptions. A few laces have meshes so small that the fabric appears continuous, like woven goods. On the other hand, some laces (as, for instance, guipure) are made up entirely of figures united by ligaments; and have no web or "foundation" in spaces which the figures do not fill.

Lace-making machines are large, costly, and intricate. No attempt will be made here to describe them, except to state that they differ essentially from a weaving loom in the fact that they have no shuttle trav-

elling lengthwise. That flying instrument is replaced by an extraordinary number of little disks, which move a few inches to and from a spectator standing in front of the loom, that is to say, their motion is at right angles to that of an ordinary shuttle. The thread carried by each disk, passes first to one side and then to the other of each warp thread and thus forms a sort of knot at each intersection. The process is more nearly similar to knitting or crochet-work, than to weaving. In proof of this similarity it may be noted that nubia shawls of worsted are made on the lace-machines, and present every appearance of handiwork with the crochet-needle. The result is that lace goods have an elasticity which cannot be attained in a woven fabric. A piece of silk net, for instance, can easily be pulled to double its natural length, without injury. The traditional lace shawl could be passed through the wedding ring. People with even the largest hands will find lace mitts that stretch so as to cover their utmost needs.

Fashion controls in the style of laces. Ten or twelve years ago a net for the hair was an indispensable appendage of every civilized female in America. When Metz and Paris were besieged, there was a sudden interruption of the chief supply of hair nets to this country, our manufacture of those articles being then quite limited. For a brief period there was a "corner" in hair nets, and the lace machines were kept running night and day. Some years have elapsed since then, during which all the hair nets found their way into ash-barrels. Now the fashion has again changed; the nets are once more in demand, but this time we shall not be dependent upon a foreign supply.

At first nearly all the business of the lace mills here was in open-work goods, of which the filena scarfs are a fair example. As the manufacture improved, the plain lace or net began to bear "spots." To borrow the language of astronomers, the spot-period rose gradually from a minimum to a maximum, beginning with little open rings—penumbræ, as it were, which afterwards were bridged across, and at last being completely filled, became true spots, well defined. Then these spots slowly expanded into the characteristic figures of different styles of lace. It will be no news to fair readers, if some of the distinctive features of different laces are here presented, but it may be news that such laces are made in this country, by machinery, and of the finest silk. It certainly was news in a court-room not long ago. The case on trial related to duties on lace goods,

and specimen laces were presented and examined by experts. Expert No. 1 pronounced a certain sample to be hand-made lace, of European production. Expert No. 2 said that it was the finest of machine lace, and must have been made in Calais, France. Expert No. 3 declared that it was the product of a factory in the United States, and as the proprietor of that factory happened to be in the court-room, he was called up, and testified to having made the goods in question. At present there is no kind of machine lace, of silk, which cannot be made in this country: and the price is lower while the quality is better than the imported article. The competition which our laces have brought to bear against the European fabrics has, however, lowered the prices of the latter, and thus the consumer is effectually benefited. All of the famous laces have thus been imitated. Among them are the elaborate "thread laces," with a groundwork of fine net, and the familiar leaf patterns; each leaf a wonder of transparent, delicate tracery. The purls or little loops which ornament the edges of this lace, and a sort of ripple at certain points which is produced by reversing the motion of a knitting-needle, used to provide infallible tests for distinguishing hand-made from machine work; but now there are no differences of that sort which are discernible. The "purl lace" is, indeed, all serrated with purls. A great deal of clipping has to be done with some of the machine laces, to cut away superfluous threads carried by the machinery from one point to another, across the web. An examination by a magnifying glass of the stumps of these clipped threads might sometimes determine the mode of manufacture, but this test cannot apply to purl lace, as it is not clipped at all, its superfluous threads being drawn. Blonde lace has a well-defined pattern, and a groundwork which is a little coarser than thread lace. Spanish lace is coarser throughout, and more heavily overlaid. The honeycomb spaces of Brussels lace give it a noteworthy regularity of texture. Many laces, such as torchon and Smyrna, are chiefly peculiar in their patterns. Valenciennes differs from all others in having its threads plaited or braided instead of being twisted or knotted; this is most observable in the figured portions, and can best be seen with a magnifying glass. All the guipure laces are of heavy thread and figures; it has been mentioned that they have no groundwork or web; it may be added that they do not undergo any clipping. For a long while laces with deeply scolloped edges have borne sway. We may not be more moral, but we are to be more straight-

laced than our predecessors, since fashion calls for Bretonne lace, to which purls and scallops are unknown. It is in this lace that the most recent improvements have been made by the manufacturer.

By the natural expansion of a successful trade, the sale of our laces is gradually extending outside of the home market, and they have found their way into Canada in the face of a tariff duty, and in competition with British fabrics. There are, however, some features of the home market which must give it greater permanency than an export trade. Many of our lace goods are made in colors, to meet the transient wants of fashion, and the laces have to match the delicate hues of the goods they overlay. For this purpose an exactness in shades is required. The changes of fashion in respect to these shades are sudden, and as difficult to anticipate as the varying tints of an evening sky. The importer of European goods is at a disadvantage compared with our manufacturer in meeting this capricious demand.

Some of us who have a tender love for old china and genuine hand-made lace experience a feeling of subdued anger at the thought that such precious things can be imitated by soulless machinery. This indignation is not reciprocated by the manufacturers of machine-lace. They would gladly see the making of hand-lace more widely introduced and practised in this country. The importance of such an industry may be conceived from the fact that it gives employment to 130,000 women and girls in a single province of France. We suppose that the ladies who are thoroughly conversant with pillows and points in the United States may easily be numbered, and will not reach high in the hundreds; but as an industrial occupation, lace-making is almost unknown among our country-women. Whatever may be the improvements in machinery, hand-made lace is sure of maintaining its superior value. If it were more largely made in this country, it would be more largely worn by the wealthier classes, and their imitators would require more of the imitation laces. Such, at least, is the reasoning of a manufacturer of machine-laces, and it furnishes him with a selfish excuse for a liberal view of the subject.

## XII.

*Dyeing.*

ARIETY in colors seems to be more required now than formerly. The range of tints supplied to our grandmothers was comparatively narrow ; the dye-stuffs were few, and could only be used to advantage in certain ways. The art of dyeing was traditional, and its recipes were handed down in families. Now, it comes within the domain of science, and its discoveries sooner or later become common property.

In purity, brilliance, delicacy and variety, the colors used to-day far surpass those that suited our ancestors. In permanence, the new hues have not been so satisfactory, but they are improving. "True blue," and "Dyed in the wool," have become proverbial phrases for honor and honesty. There is a chance for a similar sentiment in respect to "Pure black," and "Dyed in the yarn."

Silk goods, foulards excepted, are not dyed in the piece. There is, however, a small amount of re-dyeing done with piece-goods, more especially as to imported articles, arriving in unsalable colors. Few foulards are made here. They are, specifically, goods made of yarns that have not been dyed, usually of reeled silk warp and spun silk filling ; they are frequently designated as *écrus* (unbleached) : their colors are often applied by stamps, and if by dyeing, it is always done in the piece.

The rapid succession of discoveries in the aniline colors has put aside both the traditions and the secrecy of the dyer's art, while supplying an infinite variety of hues. The improvement in the colors of silk goods by the use of the anilines is one of the great features of progress in recent years, and can scarcely be overestimated. These dyes are now used to produce every tint, shade and color that may be required for silk, except pure black. Upholstery goods are now the only ones in which the new colors are not the invariable rule. It is expected that aniline black will eventually be applied to silk, and from time to time announcements have been made of success in that direction, though as yet it is not achieved in this country.

While there is really no limit to the variety of tints that can be made with the aniline colors, there are, of course, some bounds to the requirements of trade and fashion. The dyer usually prepares for each season an assortment, designated as "new colors," and comprising about 300 different shades. From these the silk manufacturer can often select the tints of which he wishes to have his yarns dyed; but it frequently happens that some intermediate shade is needed, and perhaps as many more "colors" as are at first offered, will be required in the course of a season. A single fabric may be composed of strands of many colors, and the tendency of fashion has latterly been toward such styles. Certain goods—for instance, swivel cloth—may have figures of a color wholly different from the ground. Last Fall there were ribbons in vogue which required the use of five or six shuttles, each carrying a different color; and there is, of course, occasion for similar and even greater variety in the hues of the warp-threads.

Doubtless, the novelties in color that are presented, stimulate taste in that direction. The brilliant series of aniline pinks, scarlets, reds and crimsons that preceded cardinal, helped that color to the favor it has met with so steadily since its introduction. Next to the reds, the blues are most appreciated. Americans have, however, always admired the "red, white and blue," and we may mention, in passing, that the manufacture of silk flags is a considerable branch of industry, which received a great impetus in 1876, and has not since languished. At present the post of honor among fashionable colors is held by "gendarme blue," (which, strictly speaking, is a bluish green) such as appears in the "eye" or ring of a peacock feather. An expert in these matters has estimated that there are at least one hundred definite shades of color in a peacock's tail. After the reds, blues and greens, next in popular favor come the olives, browns, straw-color, and golden yellow. At the Centennial Exhibition a dyer exhibited the solar spectrum in colored silks, with fine effect, using about 100 different shades for the purpose.

The display of American silk goods of all kinds at Philadelphia was in general more brilliant in color than that of corresponding articles from Europe. This fact will appear of some importance, when we consider its causes. The American goods were fresh; some of them were not dyed till the last week before being placed in the show-cases. The foreign goods had suffered the disadvantage of an ocean voyage, of more handling

in packing and unpacking, and perhaps, of longer exposure to light before starting. It is believed that fabrics lose color while in the hold of a vessel at sea. Persons accustomed to judge of colors perceive at a glance a marked difference between goods that have been thus transported and those that are newly dyed. As bearing on this point it is alleged that French cordonnet yarns are brought here "in the gray" to be dyed, because their colors thus obtained are brighter than if they were dyed abroad.

The loss of freshness is not confined to fancy colors; it is noticeable even in black dress silks. Perhaps it is not wholly due to the voyage. All the operations of manufacture are conducted more slowly on the other side of the Atlantic than here, and there are credible instances of European goods being six months on the loom. Exposure to light during weaving does certainly have a marked effect, and some experts claim that they can see a difference between the product of a loom which is near an unshaded window, and one in a darker part of the factory. Granting the correctness of these statements, it would seem to follow that *all* imported silk goods are more or less damaged; but we should hesitate to make such an assertion.

When anilines were first introduced, more than twenty years ago, the fault was generally found with them, that they lacked permanence. That defect has been measurably removed. With every year the dyers have learned better how to make such colors "fast." The more delicate a shade is, the more fugitive it is likely to be, and since the anilines exceed all other tints in delicacy, the difficulty of fixing them is by so much the greater. But all colors, even those solid and sombre ones that were made in olden times, if applied to textile fabrics, fade somewhat by exposure. The most that we can hope for the new colors is that they will be made as "fast" as the old ones, and this, the dyers say, is a result already almost reached. They claim it now, for their reds.

In the choice of colors Americans are fastidious. The ladies insist upon certain harmonies of hue in their apparel, more strenuously than Europeans. If fashion prescribes some *outre* shade or a bizarre mixture of tints, it may be accepted abroad, but in our Atlantic cities it must be toned down to moderation. It is said that more careful and accurate matching of colors is required here than in Europe. This applies to all kinds of silk goods—sewing silk, fringes, millinery and trimmings. It is not so evident why a similar taste should be expended on silk linings,

which are destined to be hidden from view when in use; but even these, whether for male or female wear, must be of choice colors.

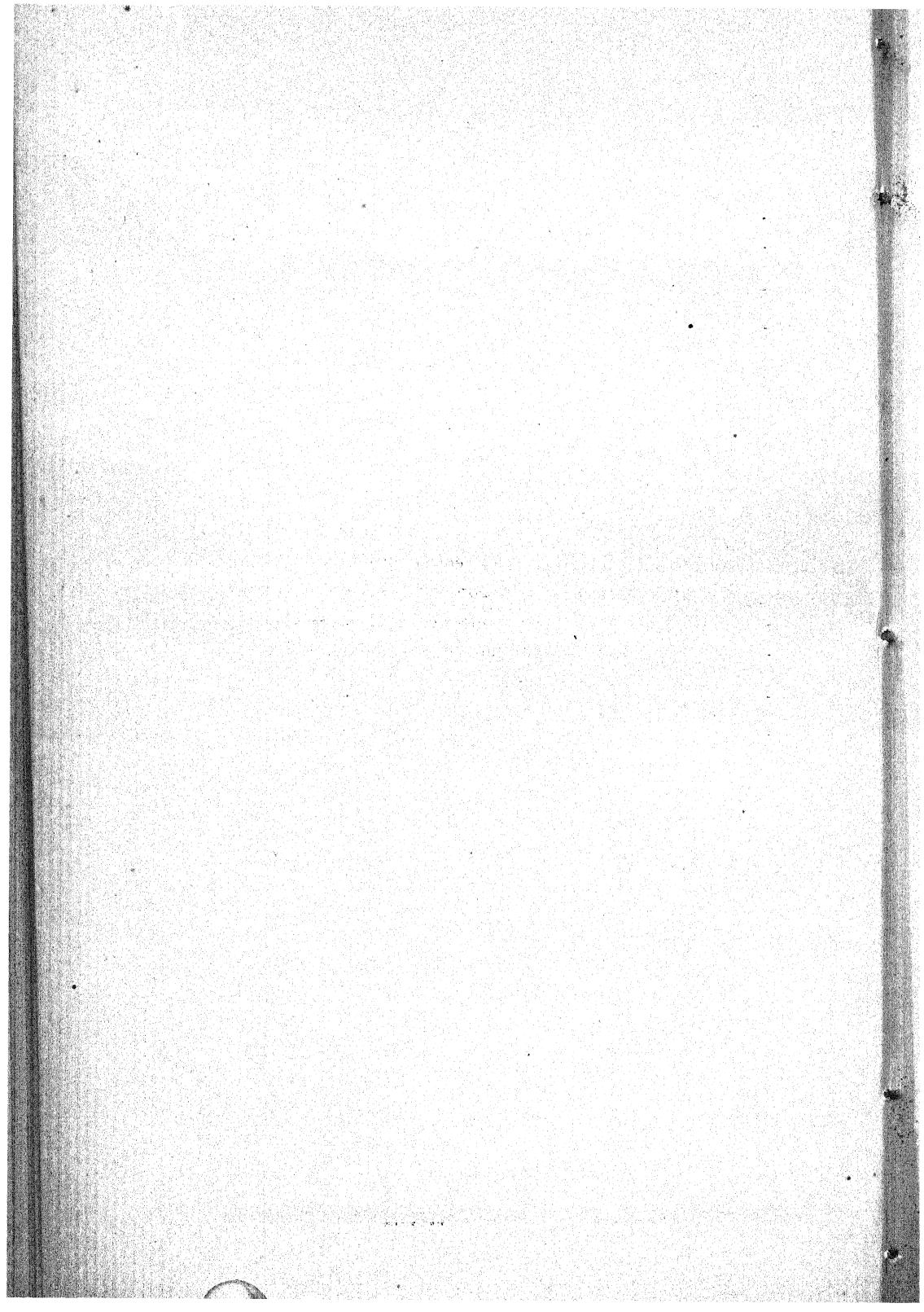
The chemical dyes are imported, and are the best of their kind; better, it is said, than Europeans use for their own silks. A part of the black dye is made in this country from native woods, and is highly commended.

The school in which most of our older manufacturers learned what they know about dyeing was in making sewings and twist. The black dye was more difficult to perfect than the colors, but their success was at last complete. Nevertheless, similar trouble was experienced when black dress silks first began to be extensively made here. But the dyeing of those fabrics has so decidedly improved within a few years, that it is claimed now to be fully equal to the best in Europe. As to weighting with excess of minerals, let it not be supposed that our dyers are ignorant of the art. If our manufacturers want loaded silks, they can have them weighted in this country, to order. In most instances, however, they may safely repeat the famous comment of Mark Twain upon the legend asserting that Washington couldn't tell a lie: "*I can, but—I won't.*"



As a part of the history of recent advances in the industry under review, the Eighth Annual Report of the Silk Association of America is herewith presented. This summarizes the progress made during the past year in the silk manufacture of this country, and gives valuable statistics relating to the trade.

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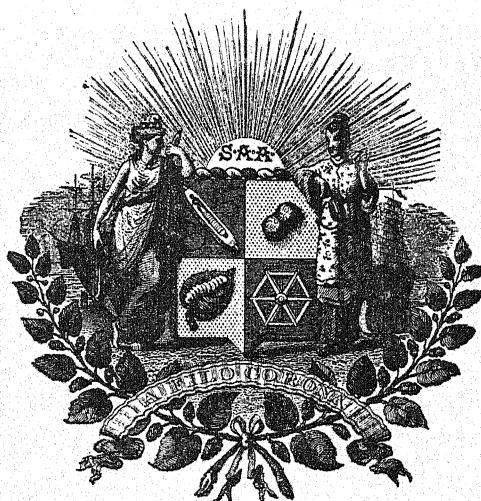


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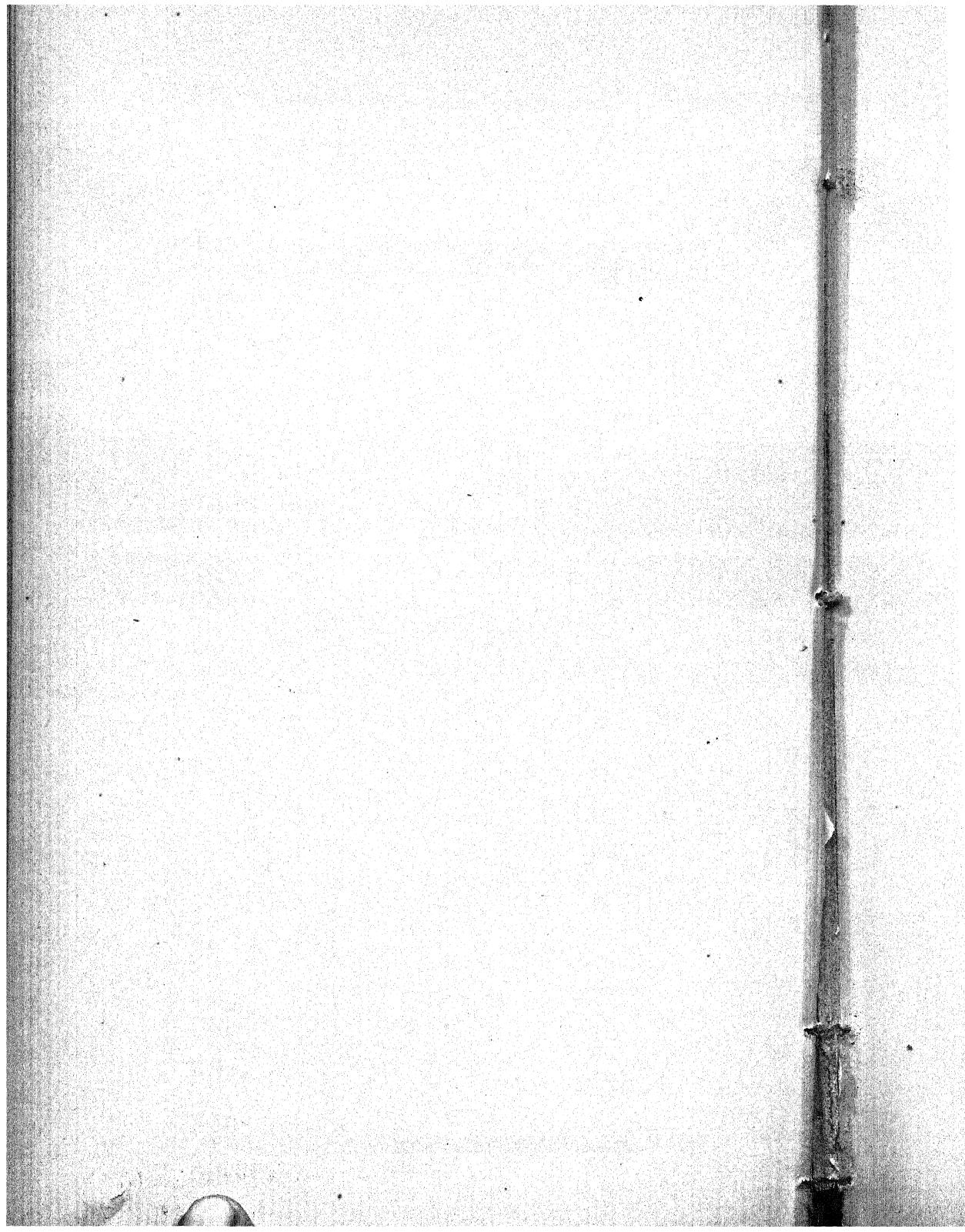
OF THE

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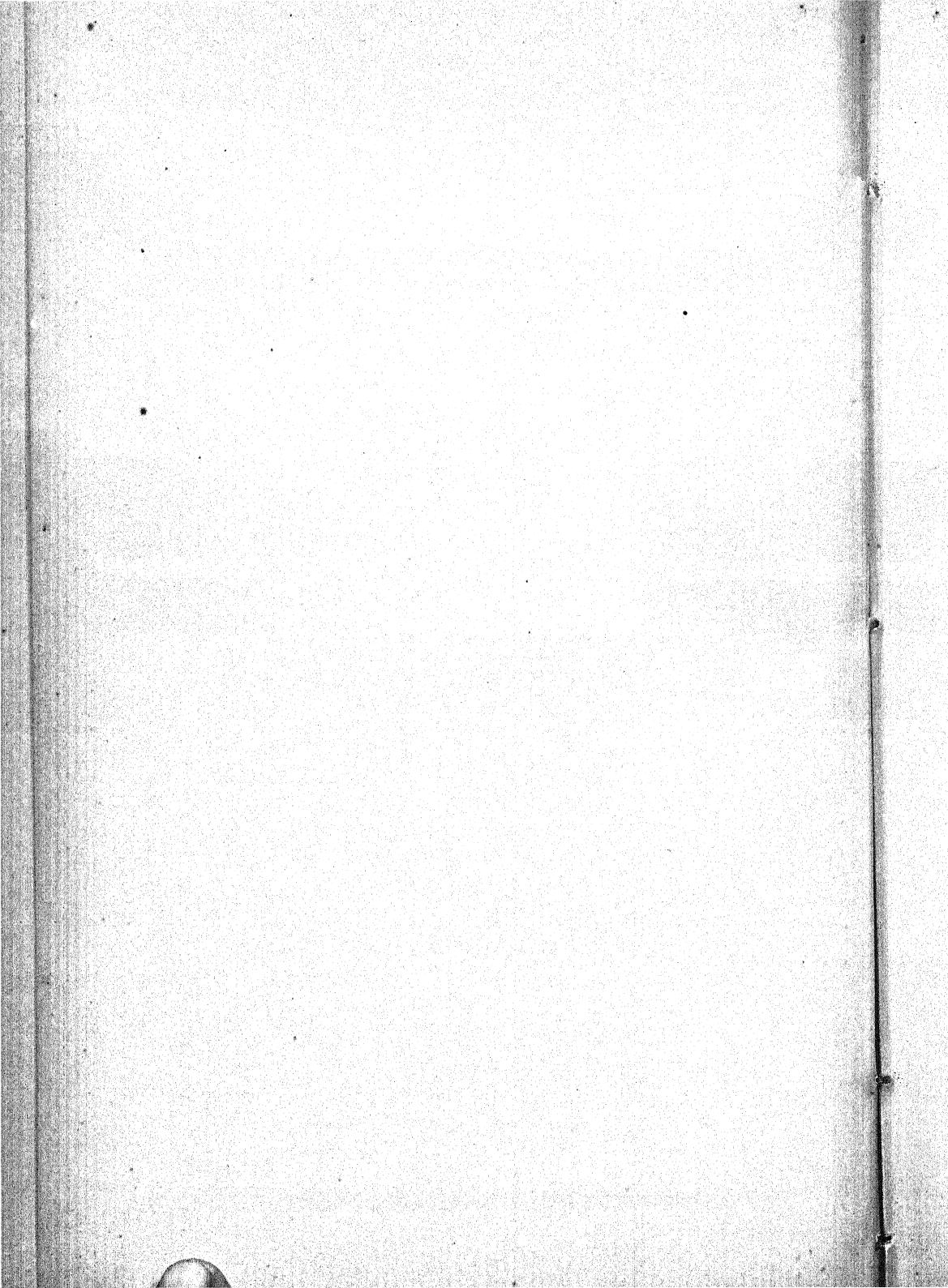
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Stelle, L. R.,	- - - - -	Sauquoit, near Utica, N. Y.
Strange, A. B.,	- 42-44	Greene Street, New York City, N. Y.
Strange, Theodore A.,	- 42-44	" " " " "
Strange, Wm.,	- - - - -	Paterson, N. J.
Struss, W. H.,	- - -	110 Grand Street, New York City, N. Y.
Strenli, Alfred,	- - -	70 Mercer Street, " " "
Tilt, Albert,	- - - - -	Paterson, N. J.
Walker, John T.,	- - -	81 Pine Street, New York City, N. Y.
Walter, Richard,	- - -	222-224 Church Street, " " "
Warner, Luther J.,	- - - - -	Northampton, Mass.
Weidmann, Jacob,	- - - - -	Paterson, N. J.
Wetmore, Cryder & Co.,	- - -	74 South Street, New York City, N. Y.
Wilson, H. B.,	- - -	33-35 Greene Street, " " "
Wood, Payson & Colgate	- - -	64 Pine Street, " " "
Yamao, K.,	- - -	46 Murray Street, " " "
Yegawa, Kimihira, Consul of Japan,	7 Warren St.,	" " "

## HONORARY MEMBERS.

Allen, Franklin,	- - -	63 Broadway, New York City, N. Y.
Haywood, George M.	- - -	90 Franklin Street, " " "
Mackay, J. P., Sec'y,	- - - - -	Paterson, N. J.
Ryle, John,	- - - - -	" " "
Takaki, Samro,	- - - - -	Yokohama, Japan.
Tomita, Tetsnoski,	- - - - -	London, England.

PREAMBLE AND BY-LAWS  
OF THE  
SILK ASSOCIATION OF AMERICA,  
IN FORCE MAY, 1880.

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WHEREAS, the Silk interest constitutes an important branch of National Industry, largely involving the labor and capital of the country; and, whereas, its future growth and permanent success require greater co-operation on the part of those engaged in it, than has heretofore existed;

Therefore, for the purpose of promoting the advancement and prosperity of this interest more effectually, by the increase of information, by the interchange of ideas, by harmonious action, and by all other appropriate means, we, the subscribers, agree to associate ourselves together, under the name of The Silk Association of America, and be governed by such rules and by-laws as the Association may, from time to time, adopt.

BY-LAWS.

LIBRARY OF  
EWING CHRISTIAN COLLEGE,  
ARTICLE I.  
CONDITION OF MEMBERSHIP.  
ALLAHABAD.

SECTION 1.—Any person being a principal or partner of a firm or officer of a corporation engaged in the Silk Industry of the United States, or agent of such firm or corporation, or any person holding power of attorney of a member, may become a member of this Association.

Persons not residing in the United States engaged in pursuits in any wise connected with the Silk trade of America, may become members of this Association.

SEC. 2.—No person shall be eligible for membership who is not proposed for election by some actual member, by written notice to the President or Secretary; and no person shall be admitted if five or more negatives are given against him.

SEC. 3.—The Government, at any duly organized meeting, may elect corresponding and honorary members, by the unanimous vote of the members present; such corresponding or honorary members shall be entitled to all the privileges of regular members, except the right to vote or hold office.

SEC. 4.—Each person admitted as a member of the Association, except corresponding or honorary members, shall pay to the Secretary the sum of twenty five dollars as an admission fee, which shall be in full for the year in which he is elected, and thereafter he shall pay annually, while he shall remain a member, the sum of twenty-five dollars.

SEC. 5.—Upon the refusal or failure by any member to pay his just dues and subscriptions, his name shall be presented to the Government, and upon their vote, shall be struck from the list of members.

SEC. 6.—Any member can withdraw from the Association after fulfilling all his obligations to it, by giving written notice of such intention to the Secretary.

## ARTICLE II.

### CLASSIFICATION OF MEMBERS.

SEC. 1.—The members of the Association may be classified by the Secretary in five several divisions, according to the branch of the silk business in which they are respectively engaged, which divisions shall be as follows :

- Division A.... Importers, dealers and brokers in raw silk.
- “ B.... Throwsters of and dealers in gum silk.
- “ C.... Manufacturers of sewing silks and twist.
- “ D.... Weavers and Dyers.
- “ E.... Manufacturers of fringe, braid, trimmings, &c.

The divisions may be separately organized by the selection of a chairman by each, with such other officers and committees as may be desired, and shall occupy the rooms of the Association for their meetings, under arrangement with the Government ; and through their chairman, may report to, or communicate with the Association at its general meetings upon any matter relating to their special branches.

SEC. 2.—Members engaged in several branches of the silk business may be registered under each.

## ARTICLE III.

### OFFICERS AND THEIR ELECTION.

SEC. 1.—The officers of the Association shall consist of a President, three Vice-Presidents, a Treasurer, not less than twelve and not more than twenty Directors, who together shall constitute the Government of the Association, and five of whom shall form a quorum for the transaction of business.

SEC. 2.—The Government shall have power to manage the affairs of the Association ; to hold meetings at such times and places as they may think proper, to appoint committees on particular subjects from the members of the Government, or from other members of the Association, with full power to act on such committees as though members of the Government ; to audit bills, and appropriate the funds of the Association ; to print and circulate documents, and publish articles in the newspapers ; to carry on correspondence and otherwise communicate with other Associations inter-

ested in the development of the Silk Industry ; to employ agents, and to devise and carry into execution such other measures as they may deem proper and expedient to promote the objects of the Association.

SEC. 3.—After the first choice, all the officers of the Association shall be annually elected by ballot at the annual meeting, at such place as the Government may appoint, a majority of the members present being necessary to constitute an election, and such officers shall continue in office for the term of one year, or until their successors are elected and qualified to take their places.

SEC. 4.—The Government of the Association shall choose a Secretary and fix his salary ; and may fill any vacancies occurring in their body, by death, declination to serve, resignation, or any other cause, after the annual election, at any regular or special meeting at which a quorum shall be present.

#### ARTICLE IV.

##### DUTIES OF OFFICERS.

SEC. 1.—It shall be the duty of the President, or, in his absence, of one of the Vice-Presidents, in order of seniority, to preside at all meetings of the Association and of the Government ; and the President or one of the Vice-Presidents shall audit and sign the annual accounts of the Treasurer.

SEC. 2.—The Treasurer shall keep an account of all moneys received and expended for the use of the Association, and shall make disbursements only upon vouchers approved, in writing, by the Secretary and any member of the Government. When his term of office expires, he shall deliver over to his successor all books, moneys and other property ; or in the absence of the Treasurer elect, to the President.

SEC. 3.—It shall be the duty of the Secretary, who shall not be engaged in any branch of the Silk Industry, to give notice of, and attend all meetings of the Association and its several divisions, and to keep a record of their doings ; to conduct all correspondence, and to carry into execution all orders, votes and resolves, not otherwise committed ; to keep a list of the members of the Association ; to collect the fees, annual dues and subscriptions, and pay them over to the Treasurer ; to notify officers and members of the Association of their election ; to notify members of their appointment on committees ; to furnish the chairman of each committee with a copy of the vote under which the committee is appointed, and at his request give notice of the meetings of the committee ; to prepare, under direction of the Government, an annual report of the transactions and condition of the Association ; and generally to devote his best efforts to forwarding the business and advancing the interests of the Association.

#### ARTICLE V.

##### MEETINGS OF THE ASSOCIATION.

SEC. 1.—The regular meetings of this Association shall be held at such place as the Government may appoint, upon the Second Wednesday of February, May, August

LIBRARY OF  
EWING CHRISTIAN COLLEGE  
ALLAHABAD

and November, and notice of such meetings, signed by the Secretary, shall be mailed to the address of each member, at least ten days before the time appointed for the meeting.

SEC. 2.—The meeting in May shall be the Annual Meeting, for the election of officers, and receiving the report of the Government.

SEC. 3.—Special meetings may be called by the Government, or upon the written application to the Secretary, of ten members, not in the Government; notice thereof to be given in the same manner as for the Regular Meetings.

SEC. 4.—It shall require ten members present at any meeting to form a quorum; and in case of there not being a quorum, the meeting may be adjourned by the presiding officer.

#### ARTICLE VI.

The order of business shall be as follows:

- 1.—Calling of the Roll.
- 2.—Reading of the Minutes.
- 3.—Election of Officers or New Members.
- 4.—Reports of Officers.
- 5.—Reports of Committees.
- 6.—Receiving Communications.
- 7.—Unfinished Business.
- 8.—New Business.

#### ARTICLE VII.

SEC. 1.—These By-Laws may be amended or repealed by a vote of two-thirds of the members present at any duly organized meeting of the Association; provided notice of such proposed change shall have been presented, in writing, at a previous meeting.

## SECRETARY'S REPORT.

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In conformity with the by laws of the Association, the Secretary has the honor to submit the following report, prepared under direction of its Board of Government, and presenting a review for the past year of the transactions and the condition of the Silk Association of America.

The silk industry during the past year has shared in the general revival of prosperity. The purchasing power of the middle and upper classes—the consumers of silk goods—depends chiefly upon the question whether their own business is active and profitable. An increased consumption of silk manufactures follows closely in the wake of renewed enterprise and activity in other departments of trade and commerce. The enlarged demand, thus created, applies as well to the foreign as to the domestic fabrics, and the imports for the past year, of silk manufactures, exceeded those of the previous year by 28 per cent., and of the year before by nearly 30 per cent.; their total invoiced value for the year 1879 amounting to \$25,830,829.

The fact that there has been so large an importation of silk goods from Europe need not, however, occasion regret, in view of our own more rapid advances in manufacture. A greater number of people wear and use these fabrics than ever before; and having become accustomed to them, will perpetuate the demand when American manufacturers are more fully prepared to supply the wants of their countrymen—and country-women.

While nobody believes that imported silk goods are paying the full measure of duties to the Government, it should be a source of satisfaction that they do provide one of the largest sources of the public revenue. Estimating by the percentage paid in previous years, we may calculate that the importations of silk goods yielded, last year, \$15,000,000 to the United States treasury. If we choose to call this large sum a "tax," we should at least be thankful that it has fallen upon the class of people who are best able to afford it—the rich, the prosperous, those who have money to spend and spare for foreign luxuries. The Government is also to be congratulated on a somewhat greater efficiency in the collection of

this branch of the revenue. As is well known, the chief method by which the full payment of duties is avoided, is by undervaluation of invoices. The Custom-House officials have, however, compelled the raising of undervalued invoices throughout the year; so that the Government collected duty in the last six months of 1879 on about \$800,000, and in the first four months of 1880 on about \$525,000 added to the original invoices. If a sermon on the morals of trade were in order, these figures would furnish a text.

The most trustworthy index of the enlargement of silk manufacture in this country, is to be found in the record of increase of raw silk imported. These figures, from time to time supplied to the members of this Association in weekly and monthly circulars, are extremely suggestive. They show that in the calendar year 1879, there were imported 18,936 bales of raw silk, valued at \$9,921,032. This is an increase, as to the number of bales, of nearly 40 per cent. over 1878, and of 91 per cent. over 1877; as to values, of 45 per cent. over 1878, and 80 per cent. over 1877. In general terms it may be stated that the consumption of raw silk has doubled within two or three years, and at present shows no signs of nearing its limit. The proportion of increase has been greater in imports from Japan than from any other source. A table appended to this report gives details, by which it appears that the receipts of Japan silk for the 12 months ending April, 1880 (inclusive), exceeded those of the preceding twelvemonth by 43 per cent. This is the more remarkable, since the total export of silk from Japan to all countries was somewhat less in 1879 than in any of three preceding years.

The price of raw silk rose about 10 per cent. in June, 1879, and this advance was maintained till August, when values receded to within 5 per cent. of their previous position.\* The rise of price stimulated the demand and production in Japan, so that it is now estimated that 700 establishments—large and small—are employed in that country in reeling and preparing silk for export. As might be expected under such pressure, instances of carelessness in the preparation of Japan silk have been more frequent than they formerly were; and it seems probable that some establishments that go by the name of filatures do little more than re-

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\* The remarkable decline in the value of raw silk which is the feature of the present year, took place after the date of this report.

reel the fibre. There has been no improvement in Chinese silk : the complaints of adulteration and other defects are more pronounced than ever. It has been urged that the Silk Association of America take some active measures for representing these facts abroad. A project for a Conditioning House in New York has been placed before the Association, and it is hoped that the enterprise will obtain sufficient support. One of the objects which may possibly be reached when a Conditioning House is established, will, it is hoped, be to ascertain definitely the extent and amount of adulterations and bad reeling ; and to fix in each instance the responsibility upon the Asiatic producer.

Sharp and continuous competition has been the marked characteristic of the business in sewing silk and machine twist. This branch of the industry has secured to itself the home market, and has long since ceased to be affected by importations from abroad. But there is no agreement between our manufacturers upon prices, and a ruinous system of discounts to purchasers has reduced profits to the slenderest margin. The old abuse of presenting elaborate and costly cabinets has also broken out afresh, with renewed force. It is an absurd custom, and might be checked at once, or at least kept within reasonable bounds, if a few leading firms would agree upon the point, and then abide by their agreement.

The effect of the fierce rivalry in the sewings and twist trade is shown by a very remarkable fact. While the number of concerns engaged in all other branches of the silk industry has largely increased, in this it has remained almost stationary, only one new firm having been started during the year. The business is, however, very active ; most of the factories have had all the orders they could fill, and they are running on full time. The operatives are more benefitted than their employers. The quantity of raw silk consumed and goods made in this branch of business has been as great as in previous years, but the value produced was less.

In woven goods the conditions of the market have not been quite so severe. It is worth noting, however, that while the prices of manufactured goods in almost every other kind of industry rose rapidly during a part of the past year, and have since retained a decided advance,—there has been no corresponding rise in the prices of silk fabrics. In fact, the course has been somewhat the other way. One of our most careful

manufacturers estimates that he is selling his goods (in April) on an average of 5 per cent. cheaper than at this time last year, while having to pay more than then for both raw material and labor. Admitting that this estimate is correct, it must be conceded that business is conducted more economically and on a smaller margin of profit than formerly. The improvements in machinery and manufacturing processes during the year have not been sufficiently marked to account for the discrepancy. Undoubtedly the volume of business has been larger, and hence could be conducted at somewhat lower cost.

The Secretary of this Association has been appointed United States Special Agent to collect the statistics of the silk industry for the Xth Census. In order to make this work as complete as possible, great pains have been taken to obtain full lists of all the silk manufacturers in the country. The investigation has already revealed the fact that the number of concerns engaged in this industry is far greater than was previously supposed, and the lists lengthen with fresh additions almost every day. The publication of these lists, in the form of a Directory, issued under the auspices of the Association, will show that a very large number of the smaller class of manufacturers has begun business within two or three years. The compilation made in 1875-6 showed that there were at that time 279 concerns engaged in silk manufacture. The new lists now ready for publication increase the number of names to at least 400, and if branches and agencies be included, to about 500. After making all due allowance for the greater thoroughness with which names and addresses have been collected, we must admit that the added length of the lists is mainly due to an actual and very large increase of the number of concerns engaged in manufacture; we may fairly estimate that there are now 50 per cent. more than there were three or four years ago.

The advance of the silk industry in Paterson, N. J. was very fully set forth at this year's annual dinner of the Silk Association of America, in a valuable address by Mr. George Wurts, editor of *The Press* of that city. The following is an extract of the statistical portion of his speech :

The details compiled in 1876 for the work entitled "The Silk Industry of America" gave 37 silk factories in Paterson, including 5 dyeing establishments; number of operatives nearly 8,000; wages \$2,664,993; capital, \$5,926,804; throwing spindles, 74,323; power looms, 730; hand looms, 563; braiding spindles, 23,445; pounds of silk dyed, 550,000.

In a paper read before the Paterson Board of Trade by Mr. C. Lambert, giving the statistics of the silk industry in this city\* for 1876, he estimated the yearly product at about \$6,000,000.

The report of the New Jersey Bureau of Labor and Statistics for 1879 gives the value of the silk product of the State in that year as \$13,700,846.

Finally, the following facts are taken from an immense amount of statistical information gathered recently by *The Press*. It was obtained by carefully visiting each establishment, large and small—some of them two or three times—and securing the data from first hands. A careful compilation of these figures shows the total production of silk in Paterson for the ten years past, to have been as follows: 1870, \$4,263,260; 1871, \$8,017,172; 1872, \$9,556,700; 1873, \$6,977,264; 1874, \$5,217,616; 1875, \$7,162,948; 1876, \$7,467,756; 1877, \$7,454,780; 1878, \$9,076,968; 1879 \$13,306,672; 1880, 3 months, \$4,796,490.

The following figures represent the silk manufacture of Paterson:

Number of firms and corporations,.....	77
Total number of operatives.....	11,465
Disbursed fortnightly in wages,.....	\$137,305
Disbursed annually in wages,.....	\$3,569,930
Capital in mills and machinery,.....	about \$9,000,000
Number of power-looms,.....	2,518
Number of hand-looms,.....	1,128
Number of throwing spindles,.....	143,618
Number of braiding spindles,.....	52,838
Square feet of flooring space used,.....	1,357,452
Pounds of raw silk used per year,.....	1,289,200
Value of finished product per year. ....	\$13,306,672

#### SILK DYEING:

Number of firms in addition to private dyehouses,.....	10
Number of men employed, .....	729
Amount disbursed in wages per year,.....	\$397,350
Capital invested,.....	about \$280,500
Number of pounds of silk dyed per year,.....	785,550
Value of product per year,.....	\$4,125,750

#### SILK MANUFACTURERS' SUPPLIES:

Number of firms,.....	15
Number of hands employed,.....	405
Amount disbursed in wages per year,.....	\$99,710
Capital invested,.....	about \$175,000
Value of product per annum.....	\$235,345

#### RECAPITULATION.

Number of firms and corporations engaged in silk manufacture and its dependencies,.....	102
Total number of hands employed,.....	12,599
Total disbursed in wages per year,.....	\$4,066,990
Total capital invested,.....	\$9,955,500

The completeness of the above returns is indicated by the fact that they are obtained from 29 more concerns than had previously been enumerated as engaged in the silk business at Paterson. Hitherto 48 was the highest number attained; the above list has 77. It appears that about one-fourth of the entire population of Paterson is employed in the silk mills and their dependencies.

\* Paterson.

Remarkable as are the foregoing statistics of the industry in Paterson, they may be paralleled so far as rapid growth is concerned, in the increase of silk weaving in Hoboken, Jersey City Heights and neighborhood; and in the very great addition to the number of fringe and dress-trimming manufacturers in the city of New York. Throughout the entire range of the industry, along with the increase in number of small concerns, there has been frequent enlargement of the mills and facilities of the larger ones. With every change of machinery to meet new wants of fashion, better goods, of higher order, and more difficult to make, have been required, and the products are continually improving. Happily, there has been no serious attempt in Congress, to interfere by tariff legislation with the march of improvement in this industry. The absence of discussion on this subject at Washington, so far as silk goods are concerned, is a chief cause of the growth of enterprise in their manufacture. While all—proprietors, operatives and consumers—have benefitted by this forbearance on the part of our legislators, it has been of vital importance to the smaller manufacturers, since an interruption of business would be fatal to their enterprises.

One of the tables appended to this report shows that the value of silk goods manufactured in this country, last year, was nearly \$30,000,000. On comparing this with the similar table in previous annual reports, it will be found that all branches of the industry except sewings and twist have increased their production.

While the tendency of fashion has been steadily toward more elaborate and costly designs, the plainer goods have had comparative neglect. These circumstances have compelled not only many changes in machinery, but have also brought about, in some instances, a complete reorganization of factories. Figured goods of intricate patterns, involving variety and richness in colors, are now the rule rather than as formerly the exception, and these have obtained fair prices, though as a whole somewhat lower than in previous years, or at all events showing no upward tendency. In wages there has been a small advance, variously estimated as from 5 to 10 per cent. It is noteworthy that this advance has taken place in the face of an unusually large immigration of operatives from Europe.

Since the date of the last annual Report, death has been busy in the ranks of the Association. Mr. THOMAS N. DALE was at the time of his decease an honorary member. The following resolutions were adopted at a meeting held July 22nd, 1879 :

WHEREAS, by the death of Mr. THOMAS N. DALE, of Paterson, N. J. on July 17th, 1879, the Silk Association of America lost an Honorary Member, a founder of the Association and one of its earliest Vice-Presidents ; and

WHEREAS, Mr. DALE was a devoted friend to the entire silk interest of this country, and gave to it the benefit of his enlarged views, ripe experience, and special study of the subject ; and

WHEREAS, Mr. DALE was solicitous for others' welfare rather than for his own, and gave freely of his time and efforts in behalf of the industrial classes, to lighten their burdens, to improve their prospects, and to procure for them the benefits of technical education : it is hereby

*Resolved*, That in the death of Mr. DALE, the Silk Association of America has lost a valued counselor, and its members an esteemed friend ; and

*Resolved*, That we hereby tender to the widow and family of our deceased Brother the assurance of our sincere sympathy, while we extend to them the testimony justly due, that in his intercourse with us, Mr. DALE won and preserved to the last the reputation of an active, honest, and upright man.

The death of Mr. BENJAMIN B. TILT took place September 30th, 1879. He was one of the earliest members of the Association.

Mr. TILT came to this country from Coventry, England, in his 28th year, about 50 years ago. He began the manufacture of silk in Boston as a member of the firm of Tilt & McDowell. On the death of Mr. McDowell in 1843 the firm of B. B. Tilt & Co. was formed, and continued to 1847, when it was succeeded by Tilt & Dexter, who in 1849 opened a small store in New York. That firm by another change of interest and partnership became Dexter, Lambert & Co., and Mr. TILT started a silk commission house in New York. In securing himself against losses in trade, Mr. TILT became the owner of silk throwing machinery in the old Phoenix Mill of Paterson, N. J., and this led to his undertaking silk manufacture there, which has since steadily increased.

In 1862 Mr. Albert Tilt, his only son, was taken into partnership, and the firm of B. B. Tilt & Son was formed ; the growth of the business in 1863-4 required the use of three separate mills—the Phoenix, the Beaver and the Watson. In 1865 a controlling interest was obtained in the Phoenix manufactory, which had before been mainly used for cotton, and it was thenceforth devoted to silk.

Mr. TILT won a world-wide reputation by liberal displays of machinery and manufacture at the Paris and Centennial Exhibitions, and thereby benefitted the whole silk industry of this country. His private life was marked by uniform and gentle courtesy to his associates and by acts of unostentatious charity.

The death of Mr. WILLIAM A. HADDEN took place April 2nd, 1880. The following resolutions were adopted at a meeting held April 13th, 1880 :

WHEREAS, it has pleased Almighty God in His wisdom to take away from us our most worthy friend Mr. WILLIAM A. HADDEN, who, as a member of the firm of David

Hadden & Co., and of the firm of Hadden & Co., was one of the earliest, truest and most liberal friends of the silk trade of America ; who, in all his dealings as a merchant, was a pattern to all who associated with him, and has left a record which ought not to perish ; therefore be it

*Resolved*, That we sincerely mourn the death of Mr. WM. A. HADDEN, and acknowledge it as a loss to the silk trade of America ; and that we place on the records of the Silk Association of America our estimate of his character as an upright man and an honorable merchant, and hold it up for imitation.

*Resolved*, That an engrossed copy of the foregoing be sent to the surviving member of the firm of Hadden & Co.

At the annual meeting of the Silk Association of America, held on Wednesday, May 14th, 1879, at No. 44 Howard Street, N. Y., the foregoing report was read, accepted, and ordered to be printed.

WM. C. WYCKOFF,

*Secretary.*

The death of Mr. ROBERT HAMIL, a Vice-President of the Association, took place September 11th, 1880. (Mr. HAMIL's last illness had taken a serious form at the time of the annual meeting, and although the final event was of a later date, some record of it seems proper in the present publication.) The following resolutions were adopted at a meeting held September 21st, 1880.

WHEREAS, our dear friend and associate, ROBERT HAMIL, has been called away from us by death, and

WHEREAS, Mr. HAMIL has been identified with the silk industry of America for a quarter of a century, and was one of the founders of the Silk Association of America, and, at the time of his death, one of its Vice-Presidents, and was always in the front rank of the advocates and promoters of American industry ; therefore be it

*Resolved*, That the Silk Association of America sincerely sympathises with Mrs. Hamil and the relatives of our departed friend in their great affliction ; that we too feel the loss of one who was so much and so constantly with us and whose career was so successful and so honorable.

*Resolved*, That the silk trade of America has in Mr. HAMIL's death lost a wise counselor, a long-tried faithful friend, a bold and ever ready champion ; and that we proudly hold up as a pattern his business life, as a manufacturer and a merchant, marked as it was throughout with inflexible integrity and honor.

*Resolved*, That a copy of this preamble and resolutions be engrossed and presented to Mrs. Hamil.

## STATISTICS.

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A brief explanation of the following statistics may contribute to their usefulness. There are three tables of the imports of raw silk at the ports of New York and San Francisco: the quantity that arrives elsewhere in the United States is inconsiderable. The number of bales as stated in the tables is accurate; their valuation, as furnished by Custom House returns, is probably only approximate. The smaller table of imports of raw silk is brought down to a later date than the Secretary's report, and indicates the proportion of the supply derived from different sources. The chart of raw silk prices shows vividly the great fluctuations in the value of that material, though not including the most recent.

The tables of imports of silk manufactures at the port of New York show that in certain lines they are falling off. With the revival of general prosperity among consumers, we may, however, expect an increase in the importation of all articles of luxury for a few years to come. In drawing deductions from the figures of this table, two things should be considered; first, the values assigned are those of the invoices, and are made as low by the importers as the Custom House authorities will permit; it is believed, in fact, that the goods are largely undervalued. The official reports of investigating commissions appointed by the U. S. Government have estimated the undervaluation as on the average not less than 25 per cent. Second, the duty paid on these goods, and the importers' profits, should be added to the invoices, in any calculation of the value of these imports in the United States markets. Of all the silk goods brought into this country, 94 to 95 per cent. come to the port of New York.

The tables of imports of both raw silk and manufactures give them by fiscal as well as by calendar years.

A table is furnished estimating the value of silk goods manufactured in the United States in 1879. These figures cannot be directly

compared with those of imported goods for reasons already stated. It may be assumed, however, that our manufactories contributed more than a third in value of the silk goods used in the country.

The table of United States imports entered for home consumption shows distinctly the sources of the public revenue from Customs duties. It will be noticed that silk goods stand third in the list of articles contributing to that revenue, and that the greater part of it is drawn from few sources.



## FLUCTUATIONS OF RAW SILK:

LONDON PRICES: by H. ZWEIFEL &amp; Co.

Upper line, waved,

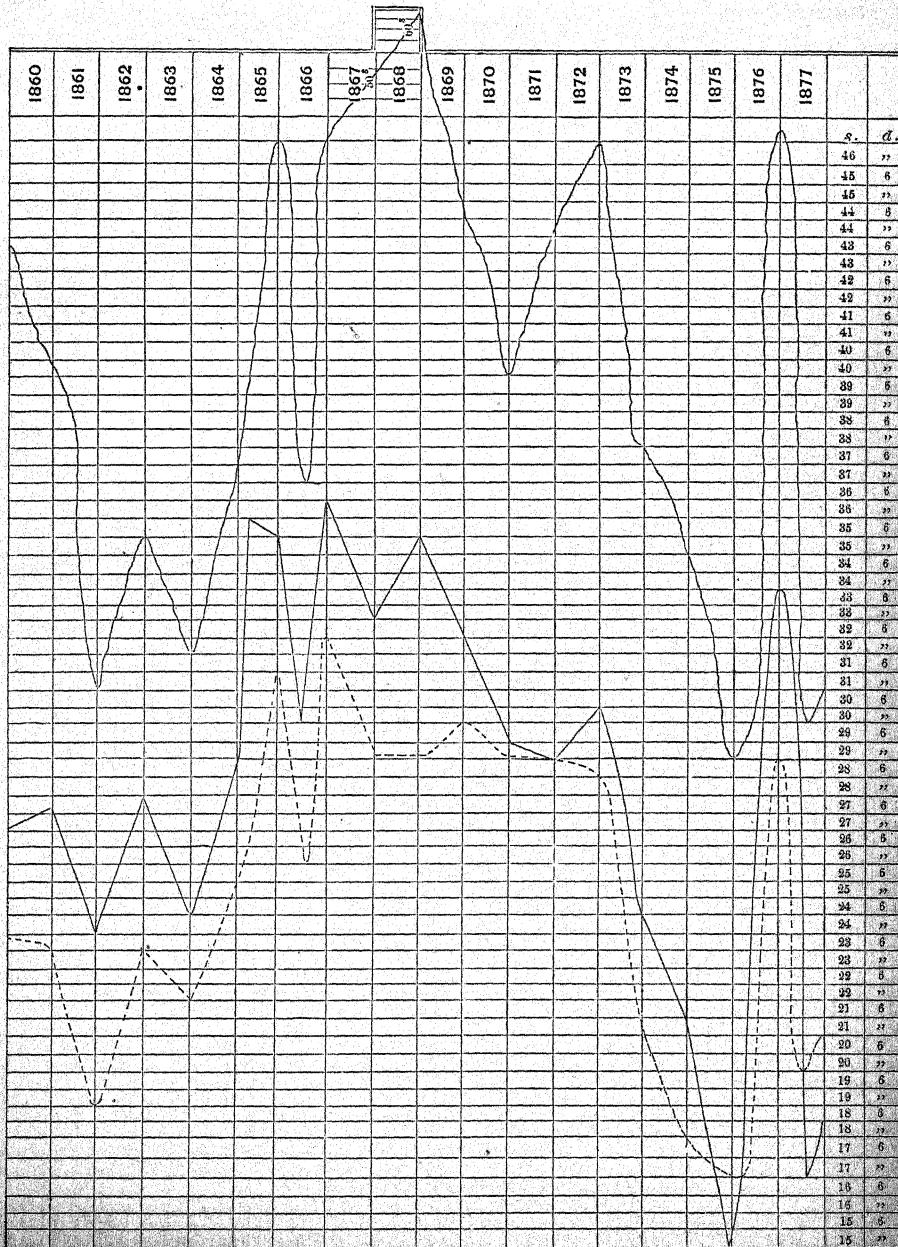
Middle line,

Lower line, dotted,

Best Italian Organzine.

Japanese Mailbash.

Chinese Tsatlee III.



## CLASSIFIED

IMPORTS OF RAW SILK AT THE PORTS OF NEW YORK  
AND SAN FRANCISCO.*From July 1st, 1879, to June 30th, 1880.*

	From England and Continent.	Japan.	Hong Kong.	Shanghai.
		BALES.	BALES.	BALES.
1879. July, - - -	511	132	57	194
" August, - - -	289	77	677	231
" September, - - -	164	281	611	455
" October, - - -	179	480	686	810
" November, - - -	200	313	69	657
" December, - - -	100	1,101	383	2,103
1880. January, - - -	150	610	187	851
" February, - - -	26	674	573	874
" March, - - -	306	677	732	1,022
" April, - - -	80	300	149	368
" May, - - -	95	364	576	916
" June, - - -	202	158	365	716
Total in Twelve Months,	2,302	5,167	5,065	9,197

Compiled by the Secretary of the Silk Association of America.

IMPORTS OF WASTE SILK AND COCOONS AT THE PORTS OF NEW YORK AND SAN FRANCISCO,  
IN THE FISCAL YEARS.

MONTHS.	1879 TO 1880,		1878 TO 1879,		1877 TO 1878,		1876 TO 1877,		1875 TO 1876.	
	BALES.	VALUE.	BALES.	VALUE.	BALES.	VALUE.	BALES.	VALUE.	BALES.	VALUE.
July, - - -	2	\$246	26	\$7,569	89	\$36,456	69	\$19,101	.....	.....
August, - - -	164	50,872	6	926	3	1,200	.....	.....	.....	.....
September, - - -	441	209,533	.....	.....	95	22,198	18	4,980	.....	.....
October, - - -	1,584	412,286	1	300	467	105,277	2	1,000	22	\$5,274
November, - - -	1,055	300,441	34	10,469	485	103,034	.....	.....	23	1,040
December, - - -	338	78,573	30	20,148	550	121,242	50	15,783	384	1,97,264
January, - - -	177	73,924	.....	.....	102	19,095	106	11,487	141	46,813
February, - - -	70	12,604	35	2,702	56	29,101	334	164,171	374	78,210
March, - - -	50	16,210	67	30,007	196	40,048	189	71,334	36	17,032
April, - - -	10	6,939	29	14,604	189	57,891	33	11,391	378	69,086
May, - - -	32	16,781	100	48,380	68	20,904	94	39,687	195	51,802
June, - - -	27	28,097	14	6,187	6	2,112	85	16,345	39	14,093
Total, - - -	3,950	\$1,206,506	342	\$141,292	2,306	\$558,558	980	\$355,279	1,592	\$480,614

Compiled by the Secretary of the Silk Association of America, 44 Howard Street, New York

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ALLAHABAD

## THE SILK ASSOCIATION OF AMERICA.

IMPORTS OF RAW SILK AT THE PORTS OF NEW YORK AND SAN FRANCISCO,  
IN THE CALENDAR YEARS.

MONTHS.	1879.			1878.			1877.			1876.			1875.		
	BALES.	VALUE.	BALES.	VALUE.	BALES.	VALUE.	BALES.	VALUE.	BALES.	VALUE.	BALES.	VALUE.	BALES.	VALUE.	BALES.
January,	-	153	\$102,124	800	\$422,682	974	\$666,506	1,548	\$625,009	641	\$273,344				
February,	-	2,493	1,203,467	950	492,027	1,271	810,547	1,158	478,466	639	261,360				
March,	-	1,358	727,585	1,170	616,573	1,342	879,466	1,267	519,959	1,536	659,180				
April,	-	1,333	706,697	999	515,329	334	218,914	568	258,641	410	196,956				
May,	-	908	465,839	1,029	405,143	975	493,559	895	345,759	1,062	472,455				
June,	-	1,921	934,443	968	436,531	836	476,099	961	401,519	1,116	500,295				
July,	-	894	497,614	515	258,485	195	121,769	133	51,072	268	139,772				
August,	-	1,274	640,342	624	285,374	688	324,613	195	85,541	482	298,596				
September,	-	1,521	791,138	1,260	653,607	892	464,476	1,323	651,194	1,137	675,731				
October,	-	2,155	1,137,293	1,734	882,085	793	352,850	735	480,616	955	572,840				
November,	-	1,239	725,183	1,963	988,248	389	196,640	976	696,343	1,257	721,323				
December,	-	3,687	1,989,307	1,722	851,641	1,224	585,645	1,478	1,006,758	1,049	555,890				
Total,	-	18,936	\$9,921,032	13,734	\$6,807,725	9,913	\$5,591,084	11,237	\$5,600,877	10,552	\$5,327,742				

Compiled by the Secretary of the Silk Association of America, 44 Howard Street, New York.

IMPORTS OF RAW SILK AT THE PORTS OF NEW YORK AND SAN FRANCISCO,  
IN THE FISCAL YEARS

THE SILK ASSOCIATION OF AMERICA.

87

MONTHS.	1879 to 1880.		1878 to 1879.		1877 to 1878.		1876 to 1877.		1875 to 1876.		
	BALES.	VALUE.	BALES.	VALUE.	BALES.	VALUE.	BALES.	VALUE.	BALES.	VALUE.	
July,	-	-	885	\$494,339	515	\$258,485	224	\$137,989	137	\$52,322	268
August,	-	-	1,266	635,902	627	287,174	692	327,013	195	85,541	540
September,	-	-	1,513	787,538	1,276	663,207	905	470,576	1,323	651,194	1,154
October,	-	-	2,135	1,126,617	1,762	893,935	797	355,100	743	484,616	955
November,	-	-	1,222	716,504	1,993	1,000,998	334	144,942	985	701,643	1,264
December,	-	-	3,669	1,980,334	1,699	839,427	1,236	592,849	1,482	1,009,758	1,056
January,	-	-	1,798	1,026,190	153	102,124	804	424,982	974	666,506	1,555
February,	-	-	2,131	1,170,510	2,493	1,203,467	959	497,737	1,281	818,884	1,162
March,	-	-	2,730	1,390,385	1,358	727,585	1,302	644,944	1,342	879,466	1,272
April,	-	-	889	527,708	1,333	706,697	999	515,329	339	222,214	568
May,	-	-	1,943	1,071,575	908	465,839	1,034	407,643	988	499,609	900
June,	-	-	1,435	761,220	1,921	934,443	873	369,365	846	480,599	966
Total,	-	-	21,616	\$11,688,822	16,038	\$8,083,431	10,159	\$4,888,469	10,635	\$6,552,352	11,660
											\$5,648,127

Compiled by the Secretary of the Silk Association of America, 44 Howard Street, New York.

IMPORTS OF SILK MANUFACTURES AT THE PORT OF NEW YORK,  
IN THE CALENDAR YEARS.

ARTICLES.	1879.	1878.	1877.	1876.	1875.	1874.	1873.	1872.	1871.	1870.
Silks, - - - - -	\$15,104,026	\$11,834,931	\$11,978,135	\$12,707,192	\$12,639,397	\$10,581,299	\$9,764,659	\$11,080,001	\$13,650,246	\$11,065,552
Satin, - - - - -	202,672	50,219	26,795	41,403	107,501	250,736	205,524	334,493	372,060	413,325
Crapes, - - - - -	435,662	375,231	397,905	594,277	470,806	641,380	577,575	459,777	499,287	320,119
Pongees, - - - - -	1,996	394	2,617	• • •	10,126	2,629	561	• • •	451	124
Plushes, - - - - -	125,487	101,198	73,777	85,668	125,722	127,045	221,421	309,485	307,159	236,273
Velvets, - - - - -	1,976,133	1,510,240	1,049,305	1,384,450	1,384,427	1,387,131	888,143	1,512,590	1,733,966	1,102,772
Ribbons, - - - - -	2,180,260	1,829,858	1,659,413	1,837,537	2,984,271	3,180,647	4,749,049	8,397,009	7,815,744	6,849,780
Laces, - - - - -	1,059,969	921,265	1,158,689	1,248,740	1,030,055	1,708,181	1,960,672	2,218,452	2,153,089	1,497,761
Embroideries, - - - - -	• • • • •	• • •	2,020	• • •	699	1,224	2,644	985	2,625	86
Shawls, - - - - -	11,179	5,519	5,611	5,831	7,1981	151	5,345	9,236	14,889	28,991
Gloves, - - - - -	126,284	112,941	41,189	29,812	46,622	23,571	40,396	17,337	31,186	19,067
Cravats, - - - - -	115,441	101,019	55,777	50,271	411,689	186,730	115,663	173,742	135,322	74,625
Handkerchiefs, - - - - -	54,688	48,761	49,932	46,294	117,363	38,754	25,362	23,357	39,857	20,363
Manillas, - - - - -	• • • • •	• • •	• • •	573	• • •	• • •	• • •	• • •	• • •	2,071
Vestings, - - - - -	• • • • •	• • •	• • •	2,427	3,608	2,467	53,431	66,621	54,817	34,540
Hose, - - - - -	86,907	48,555	34,128	55,618	46,790	26,958	42,323	34,836	39,280	14,505
Sewings, - - - - -	194,103	50,632	81,764	16,557	11,367	37,898	31,611	51,030	103,505	38,553
Braids and Bindings, - - - - -	1,343,700	935,933	1,143,737	904,883	1,200,555	1,038,320	1,033,906	1,044,644	962,913	426,935
Silk and Worsted, - - - - -	156,293	139,665	136,194	165,714	421,791	476,561	599,967	707,176	1,044,157	968,623
Silk and Cotton, - - - - -	2,655,228	1,981,899	1,992,033	2,034,823	2,312,654	3,876,952	4,064,077	6,253,392	4,566,028	3,619,497
Silk and Linen, - - - - -	651	660	3,720	10,316	3,689	3,897	5,511	73,726	389,280	37,543
<b>Total, - - - - -</b>	<b>\$25,830,891</b>	<b>\$20,042,730</b>	<b>\$19,922,741</b>	<b>\$21,192,386</b>	<b>\$23,168,118</b>	<b>\$23,292,551</b>	<b>\$24,379,322</b>	<b>\$32,677,719</b>	<b>\$33,899,719</b>	<b>\$26,731,275</b>

Compiled by the Secretary of the Silk Association of America, 44 Howard Street, New York.

## THE SILK ASSOCIATION OF AMERICA.

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IMPORTS OF SILK MANUFACTURES AT THE PORT OF NEW YORK,  
IN THE FISCAL YEARS ENDING JUNE 30TH.

ARTICLES.	1879-1880.	1878-1879.	1877-1878.	1876-1877.	1875-1876.
Silks,	\$16,696,145	\$13,877,796	\$11,281,968	\$12,647,212	\$12,848,799
Satin,	263,591	113,705	33,081	28,460	67,672
Crapes,	457,071	434,744	324,040	517,014	416,046
Pongees,	3,212	1,996	580	2,431	...
Plushes,	212,176	130,657	57,963	80,731	80,277
Velvets,	2,207,296	1,713,879	1,221,545	1,398,787	1,202,503
Ribbons,	2,975,147	1,995,257	1,640,647	1,524,724	2,749,208
Laces,	1,295,017	944,530	1,064,437	1,033,228	1,236,715
Embroideries,	...	...	1,552	468	...
Shawls,	13,908	9,978	1,057	5,650	7,056
Gloves,	223,265	106,483	104,970	30,591	34,634
Cravats,	117,996	121,555	63,881	51,066	134,876
Handkerchiefs,	65,135	47,248	41,926	67,278	98,876
Mantillas,	...	...	...	...	573
Vestings,	...	...	...	...	811
Hose,	106,596	60,646	45,686	51,381	54,400
Sewings,	303,215	59,563	85,924	35,456	15,441
Braids and Bindings,	1,707,114	1,002,042	1,129,209	992,549	996,639
Silk and Worsted,	135,434	158,995	125,121	141,062	179,893
Silk and Cotton,	3,813,793	2,244,018	1,852,105	2,092,326	2,075,231
Silk and Linen,	398	811	2,969	7,555	7,206
Total,	\$30,596,509	\$23,023,903	\$19,078,661	\$20,709,585	\$22,206,856

Compiled by the Secretary of the Silk Association of America, 44 Howard Street, New York.

EXPORTS OF SILK MANUFACTURES FROM FRANCE.

TOTALS FOR 50 YEARS. COMPILED FROM OFFICIAL RECORDS.

VALUES IN MILLIONS OF FRANCS.

YEARS.	Plain Silks.	Figured Silks.	Mixtures of Silk with other Textile.	Silk Ribbons.	Sundry Silk Goods.	Total Silk of all kinds.
1827	51.8	19.7	4.0	24.4	15.9	115.8
1828	51.0	18.3	4.8	27.5	13.8	115.4
1829	46.1	17.4	6.8	26.5	14.3	111.1
1830	51.3	19.0	5.9	22.9	12.0	111.1
1831	59.6	17.8	4.7	24.3	12.9	119.3
1832	51.3	17.7	5.1	28.2	9.5	106.8
1833	69.4	21.4	4.7	30.7	12.7	138.9
1834	53.4	17.7	4.7	23.3	13.0	112.1
1835	63.3	24.7	5.9	33.2	17.3	144.4
1836	59.9	24.7	5.8	32.8	16.9	140.1
1837	38.2	12.9	5.4	22.4	11.4	90.3
1838	60.3	21.3	3.9	34.6	19.3	139.4
1839	59.8	25.1	5.2	35.3	15.4	140.8
1840	60.4	28.8	6.6	29.3	16.8	141.9
1841	61.4	40.2	8.9	34.2	17.4	162.1
1842	43.8	28.5	8.4	19.8	11.6	112.1
1843	48.8	34.2	8.7	23.8	14.1	129.6
1844	54.3	33.0	11.1	31.1	14.2	143.7
1845	50.0	34.8	11.5	31.6	13.0	140.9
1846	53.1	31.1	10.9	35.1	16.4	146.6
1847	54.2	33.2	11.1	36.3	14.2	149.0
1848	60.3	18.2	8.3	41.7	10.8	139.3
1849	84.4	29.2	12.6	50.4	16.2	192.8
1850	104.0	32.5	18.3	68.8	22.9	246.5
1851	113.6	27.7	14.4	55.8	28.1	239.6
1852	121.9	34.0	16.8	75.5	31.5	279.7
1853	151.7	44.4	28.6	111.8	32.8	376.3
1854	122.0	33.7	23.0	96.6	36.0	311.3
1855	141.7	39.2	19.0	116.8	41.6	358.3
1856	178.8	72.0	18.9	131.9	52.3	453.9
1857	170.6	75.5	24.7	112.4	52.3	435.4
1858	156.2	57.0	22.9	95.5	47.0	378.6
1859	201.2	66.1	41.6	136.8	54.2	499.9
1860	212.8	49.6	63.9	70.3	58.2	454.8
1861	162.3	26.5	59.2	44.3	41.0	333.3
1862	193.1	29.6	59.7	47.3	33.8	363.5
1863	221.4	30.3	33.1	49.1	36.4	370.3
1864	270.1	24.3	25.2	47.4	41.2	408.2
1865	289.7	12.3	17.1	67.2	42.2	428.5
1866	309.9	7.0	15.0	88.2	47.6	467.7
1867	293.8	9.1	18.4	61.1	40.6	422.4
1868	323.3	7.6	21.0	56.8	43.0	452.7
1869	312.9	3.7	15.9	77.5	37.3	447.3
1870	351.7	4.0	19.5	64.6	45.2	485.0
1871	316.3	4.3	15.6	113.6	33.2	483.0
1872	317.8	1.8	19.5	51.4	47.2	437.7
1873	351.5	2.7	23.1	55.4	45.8	478.5
1874	323.0	1.5	11.9	42.1	37.5	416.0
1875	278.8	4.3	19.6	34.6	39.3	376.6
1876	197.7	7.5	27.5	20.2	42.8	295.7
1877	153.6	7.4	36.6	19.2	58.3	275.1

SILK MANUFACTURE  
IN THE UNITED STATES.  
PRODUCTION OF FINISHED GOODS,

*In the Calendar Year ending December 31, 1879.*

Machine Twist,		\$ 5,891,300
Sewing Silk,		778,250
Floss Silk,		166,935
Dress Goods,		3,896,525
Satin,		1,100,175
Tie Silks and Scarfs,		547,675
Millinery Silks,		977,495
Broad Goods not above enumerated,		538,655
Handkerchiefs,		3,583,125
Ribbons,		5,535,205
Laces,		406,300
Braids and Bindings,		828,255
Fringes, Dress and Cloak Trimmings,		3,590,860
Cords, Tassels, Passementerie and Millinery Trimmings,		930,540
Upholstery and Military Trimmings,		947,405
Coach Laces and Carriage Trimmings,		23,470
Fur, Hatters' and Undertakers' Trimmings,		62,810
Embroideries,		54,900
Silk Value in Upholstery and Mixed Goods,		123,750
		<hr/>
		\$29,983,630
		<hr/>

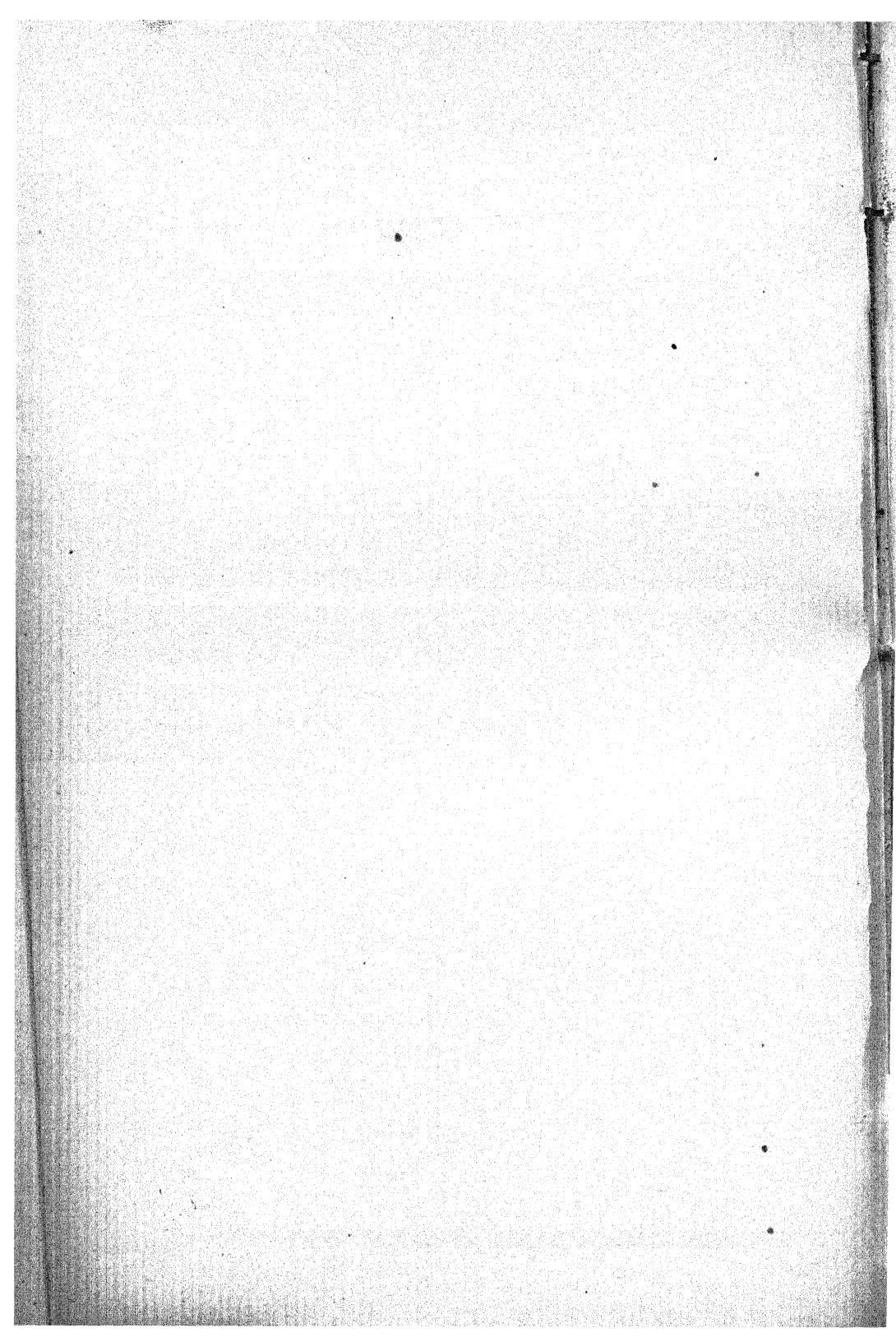
RECAPITULATION.

Sewings, Twist and Floss Silk,		\$ 6,836,485
Broad Goods,		7,060,525
Handkerchiefs, Ribbons and Laces,		9,524,630
Trimmings and Small Goods,		6,438,240
Silk Value in Mixtures,		123,750
		<hr/>
		\$29,983,630
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DUTY-PAYING IMPORTS OFF THE UNITED STATES.  
HOME CONSUMPTION.—FOR THE YEAR ENDING JUNE 30TH, 1879.

ARTICLES.	VALUE.	DUTY.	TARIFF.	Duty reduced to Ad Valorem Per Cent.	Proportion of Total Duties, Per Cent.
Sugar, Molasses and Confectionery, -	\$74,077,045.65	\$40,280,957.34	mixed.	54.4	30.22
Wool, and manufactures of, -	30,553,922.87	18,805,340.36	“	61.5	14.10
Silk, manufactures of, -	23,630,411.43	14,016,209.35	ad val.	59.7	10.52
Cotton, manufactures of, -	16,933,767.97	6,576,252.50	mixed.	38.8	4.93
Flax, manufactures of, -	16,149,301.15	5,442,750.86	ad val.	33.7	4.08
Spirits and Wine, -	6,050,707.19	5,198,598.20	mixed.	85.9	3.90
Tobacco, and manufactures of, -	5,675,407.05	4,254,946.85	“	74.9	3.19
Iron and Steel, and manufactures of, -	9,694,365.21	3,681,093.65	“	37.9	2.76
Chemicals, Dyes, Drugs, &c., -	11,178,306.60	3,433,701.16	“	30.7	2.58
Tin, and manufactures of, -	10,302,004.47	3,085,318.65	“	28.9	2.31
Fruits and Nuts, -	10,295,774.75	3,004,780.08	“	29.1	2.25
Leather, and manufactures of, -	7,532,193.73	2,620,471.25	ad val.	34.9	1.97
Beadstuffs, -	7,740,807.03	2,299,349.03	mixed.	29.7	1.73
Glass, and manufactures of, -	3,281,452.54	1,891,022.84	“	57.9	1.42
Hemp, Jute, &c., and manufactures of, -	7,491,533.40	1,708,337.20	“	22.8	1.38
Earthenware and China, -	4,044,875.94	1,711,184.77	ad val.	42.3	1.28
Fancy Articles, Perfumery, &c., -	3,441,258.97	1,376,213.37	“	40.0	1.03
Embroideries of Cotton, Silk or Wool, -	2,913,433.00	1,019,701.55	“	35.0	.76
Spices, -	1,661,876.65	972,241.32	specific.	58.5	.73
Wood, and manufactures of, -	3,978,982.35	933,148.52	mixed.	23.5	.70
Buttons, and materials of, -	3,124,292.94	878,181.48	ad val.	28.1	.66
Salt, -	1,085,204.39	798,647.80	specific.	47.4	.60

## THE SILK ASSOCIATION OF AMERICA



AMERICAN  
SILK GOODS  
DIRECTORY.

INCLUDING SILK MANUFACTURERS, DEALERS IN  
SILK MANUFACTURES, AND RAW SILK  
IMPORTERS AND BROKERS.

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COMPILED BY WM. C. WYCKOFF.

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1880.

LIBRARY OF  
EWING CHRISTIAN COLLEGE  
ALLAHABAD

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The present directory has fewer errors than its predecessors, but is still, doubtless, incomplete. Its compiler will be greatly obliged, if notice is sent to him of errors or omissions and of changes in firms, companies or agencies; as such information may be utilized hereafter.

44 HOWARD STREET,  
NEW YORK.

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# AMERICAN SILK GOODS DIRECTORY.

SILK MANUFACTURERS, AND DEALERS IN SILK MANUFACTURES.

## CALIFORNIA.

\*Belding Bros. & Co. (See *Rockville, Conn.*) 565 Market Street.... San Francisco.

The California Silk Manufacturing Co. Rodgers, Meyer & Co. F. Habenicht, Treasurer; H. M. Hale, Secretary. Machine Twist, Sewing Silk, Embroidering Silks and Tram. Agent: Robert R. Yates, 585 Market Street..... San Francisco.

Mills, cor. of 11th Avenue and P. Street, South San Francisco.

California Trimming Co. Gaeth & Roehrigs, Proprietors. Dress and Upholstery Trimmings. 727 Market Street... San Francisco.

Carlson & Currier, Agents for Belding Bros. & Co. (See *Rockville, Conn.*) 565 Market Street..... San Francisco.

Columbat, Mrs. A. Dress Trimmings. 104 O'Farrell Street.... San Francisco.

\*Cutter, John D. & Co. (See *Newark, N. J.*) Salesroom, Palace Hotel ..... San Francisco.

Ettinger, S. Dress Trimmings, Fringes, Gimps, Cords, Tassels, Buttons, Upholstery and Military Trimmings. 105 Post Street, San Francisco.

Fromm & Schaefer. Dress and Upholstery Trimmings. 113 Minna Street..... San Francisco.

Higinbotham & Co. San José Silk Co. Tram and Fringe Silk. San José.

\*Nonotuck Silk Co. (See *Florence, Mass.*) Salesroom, 549 Market Street..... San Francisco.

Norcross & Co. Flags, Military Embroidery, Regalia and Dress Trimmings. 6 Post Street..... San Francisco.

Pacific Fringe Factory. Auerbach & Thompson. Silk Fringes and Gimps.

Factory and Salesroom, 751 Market Street. .. San Francisco.

Union Pacific Silk Manufacturing Co. George C. Bode, President.

Ribbons. (Reported not in operation, October, 1880.)

Mills ..... San Francisco.

\* Denotes connection by membership with the Silk Association of America.

Viannay, A. Dress Goods. 213 Post Street ..... San Francisco.

### CONNECTICUT.

Adams, R. & Co. R. Adams, Manufacturer. Woven Goods. Office, 10 Greene Street, New York.

Mill at ..... Birmingham.

Ætna Silk Co. F. E. Porter, President; J. B. Eldridge, Treasurer. Sewing Silk and Machine Twist. Agencies in New York and Philadelphia.

Mills ..... Norfolk.

Allen, Dwight. Throwster ..... South Coventry.

Atwood, Orlo. Machine Twist.

Mills and Salesroom ..... New London.

\*Belding Bros. & Co. Sewing Silk, Machine Twist, Floss, Embroidery and Fringe Silks, Tram and Organzine. Salesrooms, 456 Broadway, New York; 105 Summer Street, Boston; 56 West 4th Street, Cincinnati; 147 and 149 Fifth Avenue, Chicago; 603 Washington Avenue, St. Louis; 6th, cor. of Arch Street, Philadelphia, L. C. Hall, Jr., & Co., Agents for Philadelphia house; 565 Market Street, San Francisco, Carlson & Currier, Agents; Belding, Paul & Co., 28 and 30 St. George Street, Montreal, Canada.

Mills, Rockville; also at Northampton, Mass., and Montreal, Canada ..... Rockville.

\*The Brainerd and Armstrong Co. Sewing Silk and Machine Twist. Salesrooms, 469 Broadway, New York; 238 Market Street, Philadelphia; 35 Sharpe Street, Baltimore; 4 Fifth Avenue, Pittsburg.

Mills ..... New London.

Bridgeport Coach Lace Co. B. K. Mills & Co. Coach Lace, Fringe and Tassels.

Factory and Salesroom, 56 and 58 Cannon Street, Bridgeport.

\*Brown, L. D. & Son. Sewing Silk and Machine Twist. Salesrooms, 119 Summer Street, Boston, and 439 Broadway, New York.

Mills ..... Middletown.

\*Chaffee, O. S. & Son. Sewing Silk, Machine Twist, and Embroidery Silk. Salesroom, Mansfield Centre.

Mills ..... Willimantic and Mansfield Centre.

\*Cheney Bros. Silks, Satins, Dress Goods, Printed Silks, Handkerchiefs, Spun Silk Yarns and Fabrics, Ribbons, Organzine and Tram. Salesrooms, 477, 479, 481 Broome Street, New York, and Galveston, Texas. Financial Office, South Manchester, Ct.

Mills ..... Hartford and South Manchester.

\* Denotes connection by membership with the Silk Association of America.

Clark, R. S. Sewing Silk, Machine Twist, Floss Silk, and Tram. Agents, Cook, Valentine & Co. 327 Broadway, New York, and Kingman and Freeman, 57 Mercer Street, New York.

Mill ..... Mount Carmel.  
Hammond & Knowlton. Sewing Silk, Machine and Button-hole Twist. Salesroom, 496 Broadway, New York.

Mills ..... Putnam.  
Hanks, P. G. & J. S. Machine Twist.

Mill and Salesroom ..... Gurleyville.  
\*Hayden, J. H. & Son. Tram, Sewing Silk and Machine Twist. Kingman & Freeman, Selling Agents, 57 Mercer Street, New York.

Mills ..... Windsor Locks.  
Heminway, M. & Sons' Silk Co. M. Heminway, Pres.; H. Heminway, Treas. Sewing Silk and Machine Twist, Embroidery, Saddlers' Knitting and Filling Silks. Salesrooms, 78 Reade and 99 Church Streets, New York; 14 North 5th Street, Philadelphia.

Mills ..... Watertown.  
\*Holland Manufacturing Co. Ira Dimock, Manager; S. L. Burlingham, Attorney. Sewing Silk and Machine Twist. Salesrooms, H. Eldridge, Agent, 435 Broadway, New York; 19 High Street, Boston; 633 Market Street, Philadelphia.

Mills ..... Willimantic.  
\*Leonard Silk Co. Sewing Silk and Machine Twist. J. H. Simonds, President and Treasurer, Warehouse Point, Conn. Salesrooms, 140 Church Street, New York; 44 Chauncy Street, Boston; 235 Arch Street, Philadelphia; 27 German Street, Baltimore.

Mills ..... Warehouse Point.  
Macfarlane, James S. Sewing Silk, Machine and Button-hole Twists. Salesroom, 43 Walker Street, New York.

Mills ..... Mansfield Centre.  
Marvin, John M. Organzine, Tram, Machine Twist, and Sewing Silk. Factory and Salesroom, cor. State and Wall Streets ..... New Haven.

Merrick & Conant Manufacturing Co. Sewing Silk and Machine Twist; also, Silk Throwsters.

Mill ..... East Hampton.  
Morgan & Bottum. Machine Twist.

Mills ..... South Coventry.  
Pardee, C. H. & Booth, J. H. Coach Laces and Carriage Trim-mings, 9 Wooster Street ..... New Haven.  
Smith, E. B. Machine Twist. Belding Bros. & Co., Selling Agents, 456 Broadway, New York.

Mill ..... Gurleyville.

Turner, P. W. & Son. Tram, Organzine, Sewing Silk and Machine Twist. Salesroom, 27 Greene Street, New York.

Mills ..... Turnerville.

Washburn, A. Fringe Silk. ..... South Coventry.

Williams, W. E. (H. M. Cady.) Sewing Silk and Machine Twist.

Mill ..... Gurleyville.

Willimantic Silk Co. John M. Hall, President; Wm. H. Osborn, Treasurer. Hat Bands and Bindings.

Mill ..... Willimantic.

Winsted Silk Co. E. Potter, Manager. Machine and Buttonhole Twist, and Sewing, Embroidery and Floss Silks. Agencies in Boston and Chicago.

Mill ..... West Winsted.

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### ILLINOIS.

\*Aub, Hackenburg & Co. (See *Philadelphia*.) Salesroom, 152 Fifth Avenue ..... Chicago.

\*Belding Bros. & Co. (See *Rockville, Conn.*) Salesroom, 147 and 149 Fifth Avenue ..... Chicago.

\*Cutter, John D. & Co. (See *Newark, N. J.*) Salesroom, 127 Fifth Avenue ..... Chicago.

\*Eureka Silk Manufacturing Co. (See *Canton, Mass.*) Salesroom, 115 Fifth Avenue ..... Chicago.

Fiedler, A. B. Dress Trimmings, Fringes, Gimps, Ornaments, Cord, Tassels and Buttons. Salesroom, 48 East Madison Street; Factory, 449 and 451 North Wells Street ..... Chicago.

Foster, G. F., Son & Co. Cords, Fringes, Tassels, Society and Military Trimmings. Office, 4 Market Street; Factory, 205 Randolph Street ..... Chicago.

Gossage, Charles & Co. Dress Trimmings. (Agency, Cor. Church and Worth Streets, New York.) 108 State Street ..... Chicago.

Heuer & Brockschmidt. Dealers in Upholstery Trimmings. 16 Fifth Avenue ..... Chicago.

Jacobs W. W. & Co. Fringes, Tassels, Cords, Upholstery and Drapery Trimmings. 185 and 187 Wabash Avenue ..... Chicago.

\*Nonotuck Silk Co. (See *Florence, Mass.*) Salesroom, 159 Fifth Avenue. .... Chicago.

Peters, M. Upholstery Trimmings, Cords, Tassels and Fringes. 61 Washington Street ..... Chicago.

\*Skinner, Wm. (See *Holyoke, Mass.*) Salesroom, 119 Fifth Avenue, Chicago.

**KANSAS.**

\*Boissière, E. V. Ribbons and Dress Trimmings. Also, Silk Culture.

Mills ..... Silkville, Williamsburgh P. O.

**MAINE.**

Haskell-Silk Co. James Haskell, President; Frank Haskell, Treas. Sewing Silk, Machine Twist, Organzine, Tram and Fringe Silk. Kingman & Freeman, Selling Agents, 57 Mercer Street, New York.

Mills ..... Saccarappa.

**MARYLAND.**

\*Aub, Hackenburg & Co. (See *Philadelphia*.) Salesroom, 19 Light Street. .... Baltimore.

\*Brainerd & Armstrong Co. (See *New London, Conn.*) Salesroom, 35 Sharp Street. .... Baltimore.

Carpenter, John. Fringes and Undertakers' Trimmings. 88 South Eutaw Street. .... Baltimore.

\*Leonard Silk Co. (See *Warehouse Point, Conn.*) Salesroom, 27 German Street. .... Baltimore.

Munder, Theophilus. Dress and Upholstery Trimmings. 81 Lexington Street. .... Baltimore.

Sixco Bros. 50 North Charles Street. .... Baltimore.

Stern, S. L. Dress and Upholstery Trimmings, Piece Goods and Neckwear. Office, 101 German Street.

Factory, 43 German Street. .... Baltimore.

Tallerman, Gusta. Fringes and Dress Trimmings. 67 North Howard Street. .... Baltimore.

**MASSACHUSETTS.**

## BOSTON.

Abercrombie, Geo. N. Fringes, Cords, Tassels, Buttons, &c. Office, 12 West Street, Boston.

Factory, 19 Franklin Street. .... Boston.

Barr, Rider & Co. Dealers in Sewing Silks. Salesroom, 21 Summer Street. .... Boston.

\*Belding Bros. & Co. (See *Rockville, Conn.*) Salesroom, 105 Summer Street. .... Boston.

\* Denotes connection by membership with the Silk Association of America.

Boston Elastic Fabric Co. (See *Chelsea, Mass.*) Salesroom, Devonshire Street..... Boston.

\*Brown, L. D. & Son. (See *Middletown, Conn.*) Salesroom, 19 Summer Street..... Boston.

Burr, Brown & Co. (See *Hingham, Mass.*) Salesrooms, 163 Devonshire, and 24 Arch Streets..... Boston.

\*Cutter, John D. & Co. (See *Newark, N. J.*) Salesroom, 442 Washington Street..... Boston.

Downs & Adams. (See *Boston Highlands.*) Salesroom, 5 Chauncy Street..... Boston.

\*Eureka Silk Manufacturing Co. (See *Canton, Mass.*) Salesroom, Seavey, Foster and Bowman, Agents, 40 Summer Street.. Boston.

Farwell, Isaac Jr., & Co. (See *Watertown, Mass.*) Salesroom, 92 Arch Street..... Boston.

Fiedler, Moeldner & Co. Dress and Cloak Trimmings. Salesroom, 11 Avon Street, Boston.

Factory, 473 to 477 Tremont Street..... Boston.

French, A. W. Dealer in Gum Silks. Salesroom, 19 Summer Street, Boston.

Glendale Elastic Fabric Co. (See *Easthampton, Mass.*) Salesroom, 10 Milk Street ..... Boston.

\*Holland Manufacturing Co. (See *Willimantic, Conn.*) Salesroom, 19 High Street..... Boston.

Hubbard, Dudley. Fringes, Cords, Tassels and Buttons. 22 Winter Street..... Boston.

Kelsea, Joseph N. (See *Antrim, N. H.*) Salesroom of Selling Agents, 105 Summer Street..... Boston.

\*Leonard Silk Co. (See *Warehouse Point, Conn.*) Salesroom, 44 Chauncy Street..... Boston.

Linneman, C. A. Silks, Fringes and Trimmings. 28 Chauncy Street..... Boston.

Lipper, M. W. & Co. (See *Philadelphia.*) Salesroom, 49 Summer Street..... Boston.

Messinger, V. J. & Co. Dealers in Sewing Silk and Machine Twist. 23 Dock Square .. Boston.

Newey, Joshua E. Skein Silk Dyer. 812 Albany Street.. Roxbury, Boston.

\*Nonotuck Silk Co. (See *Florence, Mass.*) Salesroom, 18 Summer Street..... Boston.

Polhaus, E. Silk Dyer..... Jamaica Plain, Boston.

Schoenfuss, F. & Co. Fringes, Buttons and Cords. 383 Washington Street..... Boston.

Seavey, Foster & Bowman. See (*Eureka M'f'g Co. Canton, Mass.*)  
 40 Summer Street..... Boston.

\*Springfield Silk Co. (See *Springfield, Mass.*) Salesroom, 93 High  
 Street..... Boston.

Thairwall, Wm. C. Spun Silk, Cotton and Linen Yarns. 38 Lin-  
 coln Street..... Boston.

Ther, William. (See *New Brunswick, N. J.*) Salesroom of Selling  
 Agent, 18 Summer Street. .... Boston.

Whitney, H. L. Dealer in Sewing Silk. Salesroom..... Boston.

Wilkins, Thomas & Co. Dealers in Sewing Silks. Salesroom,  
 Greene Street, near Bowdoin ..... Boston.

Ziegler, Alfred. Suspender Web, Upholstery Trimmings, Fringes,  
 Gimp and Silk Ties. Salesroom, 5 Chauncy Street, Boston.  
 Factory, Decatur Avenue, cor. of Pynchon Street. . . Boston.

### MASSACHUSETTS, Continued.

\*Belding Bros. & Co. (See *Rockville, Conn.*)

Mill at. .... Northampton.

Boston Elastic Fabric Co. Suspender Webs, Garter Webs, Frills,  
 Cords and Braids. Salesrooms, 175 Devonshire Street, Boston,  
 and 102 Chambers Street, New York.

Mills ..... Chelsea.

\*Bottum, C. L. Sewing Silk and Machine Twist, also Silk Dyeing.  
 Conantville Silk Mill. .... Northampton.

Burr, Brown & Co. Fringes, Gimp, Cords, Tassels, and Carriage,  
 Military and Upholstery Trimmings. Salesrooms, 163 Devonshire  
 and 24 Arch Street, Boston.

Factory ..... Hingham.

Downs & Adams. Sewing Silk and Machine Twist. Office, 5 Chauncy  
 Street, Boston.

Factory..... Boston Highlands.

\*Eureka Silk Manufacturing Co. J. W. Seavey, President; F. A.  
 Foster, Secretary; John A. Bowman, Treasurer. Sewing Silk,  
 Machine Twist and Embroidery Silks. Salesrooms, 7 Mercer Street,  
 New York; 40 Summer Street, Boston; 115 Fifth Avenue, Chicago;  
 707 Washington Avenue, St. Louis.

Mills..... Canton.

Farwell, Isaac, Jr., & Co. Sewing Silk and Machine Twist. Sales-  
 room, 92 Arch Street, Boston.

Mills..... Watertown.

Glendale Elastic Fabric Co. Joseph W. Green, Jr., Treasurer.  
 Elastic Goring, Cords, Braids and Garter Webs. Agents, Stod-

\* Denotes connection by membership with the Silk Association of America.

dard, Lovering & Co., 10 Milk Street, Boston, and 8 Thomas Street, New York. .... Easthampton.

Factory..... Easthampton.

Glenwood Mills. O. G. Webster and A. S. King. Sewing Silk and Machine Twist. Salesroom, 57 Mercer Street, New York. .... Easthampton.

Mills..... Easthampton.

Gold Medal Braid Co. H. A. Daggett, President. Silk Fishing Lines. .... Attleborough Falls.

Factory..... Attleborough Falls.

\*Lathrop Bros. Sewing Silk, Machine Twist and Fringe Silk. Mills and Salesroom..... Northampton.

Mansfield, G. H. & Co. Braided Fishing Lines. .... Canton.

Factory and Salesroom..... Canton.

\*Nonotuck Silk Co. Ira Dimock, President; A. T. Lilly, Treasurer. Sewing Silk and Machine Twist Mills, at Florence and Leeds, Mass. Salesrooms, 19 Mercer Street, New York; 18 Summer Street, Boston; 159 Fifth Avenue, Chicago; 417 and 419 North Fourth Street, St. Louis; 88 West Third Street, Cincinnati; and at Gloversville, N. Y. .... Florence.

Mills..... Florence.

\*Skinner, William. Unquomonk Silk Mills. Organzine, Sewing Silk, Machine Twist, Dress Goods, Satins de Chine, Grosgrain, Braids and Bindings. Salesrooms, 43 Mercer Street, New York; and 119 Fifth Avenue, Chicago, Ill. .... Holyoke.

Mills..... Holyoke.

\*Smith & Rice. Sewings and Machine Twist. Agencies in Boston, New York, Philadelphia and Chicago. .... Pittsfield.

Mill and Salesroom..... Pittsfield.

\*Springfield Silk Co. O. H. Smith, President; H. W. Hallett, Treasurer. Sewing Silk, Machine Twist, Organzine and Tram. Salesrooms, C. F. Lockhardt, Agent, 73 Leonard Street, New York; George W. Knight & Co., Agents, 93 High Street, Boston; George W. Sparks, Agent, 17 South 4th Street, Philadelphia. .... Springfield.

Mills..... Springfield.

Streeter & Mayhew. Machine Twist, Sewings, Fringe and Floss Silks, Tram and Organzine. .... Shelburne Falls.

Mills..... Shelburne Falls.

\*Warner, Luther J. Sewing Silk, Machine Twist and Embroidery Silk. .... Northampton.

Mills and Salesroom..... Northampton.

Worcester Silk Co. E. M. Kennedy, Proprietor. Plain and Fancy

Schappe Gros-grain Ribbons. Geo. R. Kennedy, Agent, Worcester, Mass.

Mills ..... Worcester.

Ziegler, Conrad. Silk Dyer. 54 George Street ..... Roxbury.

### MISSOURI.

\*Belding Bros. & Co. (See *Rockville, Conn.*) Salesroom, 603 Washington Avenue. .... St. Louis.

\*Eureka Silk Manufacturing Co. (See *Canton Mass.*) Salesroom, 707 Washington Avenue. .... St. Louis.

\*Nonotuck Silk Co. (See *Florence, Mass.*) Salesrooms, 417 and 419 North 4th Street. .... St. Louis.

Schacht & Bro. Dress Trimmings. 326 Market Street, St. Louis.

### NEW HAMPSHIRE.

Childs, Ruthan. Organzine and Tram. Selling Agents, Kingman & Freeman, 57 Mercer Street, New York.

Factory. .... Hillsborough Bridge.

Kelsea, Joseph N. Sewing Silk, Machine Twist and Tram. Agents, W. J. Baker, 105 Summer Street, Boston; Kingman & Freeman, 57 Mercer Street, New York.

Mills and Salesroom. .... Antrim.

### NEW JERSEY.

#### PATERSON.

Adams, R. & H. Ribbons, Fancy Silks, Handkerchiefs, Mosquito Nets, Crinolines and Wiggins. Salesrooms, 16 and 83 and 85 Greene Street, New York.

Harmony Mills, Van Houten Street. .... Paterson.

American Braid Co. Benj. Curley & Co. Silk Watch Chains, &c. .... Paterson.

Anderson, John & Sons. Handkerchiefs, Figured Dress Goods, Ties and Scarfs. Whitney & Mathews, Agents, 85 Leonard Street, New York.

Totowa Mills, 48 Redwood Street. .... Paterson.

Ashley & Bailey. Tie Silks, Dress Goods and Handkerchiefs. Agents, Stanton Bros., 466 Broome Street, and Whitney & Mathews, 85 Leonard Street, New York.

Mills, River Street. .... Paterson.

\* Denotes connection by membership with the Silk Association of America.

Ashley, William. Handkerchiefs, Dress Goods, Tie Silks and Scarfs.  
 Agents, Whitney & Mathews, 85 Leonard Street, New York.  
 Mills at Fort Plain, New York, and the Franklin Mill, Mill  
 Street ..... Paterson.

Auer, C. B. Satins and Brocades. Murray Mill, Mill Street ..... Paterson.

Auerbach & Co. Sewing Silk and Twist. Salesroom, 481 Broadway,  
 New York. Paterson.

Mill ..... Paterson.

Baare, Frederick. Soft Silk Winding. Van Houten Street, Paterson.

Ball, William. Handkerchiefs. 93 River Street ..... Paterson.

Barnes & Peel. Silk and Mohair Braids, Organzine and Tram.  
 Beaver Mill, 1 to 9 Broadway ..... Paterson.

\*Booth, J. H. & Co. Tram, Organzine, Floss and Sewings. Agent,  
 Wm. Ryle, 54 Howard Street, New York.

Mills, Cor. Market and Spruce Streets ..... Paterson.

Broomhall, George L. Dress Goods, Handkerchiefs and Millinery  
 Silks. Agents, Whitney & Mathews, 85 Leonard Street, New York.  
 Ashley & Bailey Mill, Warren Street. Paterson.

Bruchet, Louis. Handkerchiefs. 93 River Street ..... Paterson.

Chapin, J. L. Dress Goods and Handkerchiefs. Selling Agents,  
 96 Reade Street and 56 Worth Street, New York.

Arkwright Mill, Beach and Morton Streets ..... Paterson.

Colle, J. Cherille. 360 Main Street ..... Paterson.

Crawford, Paul. Handkerchiefs, Scarfs, and Dress Goods. Agent,  
 William Whiteside, 107 and 109 Franklin Street, New York.

Dale Mill, Railroad Avenue ..... Paterson.

Crew, Sons & Co. Silk Finishers. Watson Mill, Railroad Avenue,  
 Paterson.

Day, John. Handkerchiefs. 93 River Street ..... Paterson.

Dale, Frederick S. Silk and Mohair Braids and Bindings, and Com-  
 mission Throwster. Agents, Dale & Kimball, 419 and 421 Broad-  
 way, New York.

Dale Mill, Railroad Avenue. Paterson.

\*Dexter, Lambert & Co. Twill Silks, Tie Silks, Ribbons and Dress  
 Silks. Salesrooms, 33 and 35 Greene Street, New York.

Mills, Straight Street ..... Paterson.

Doherty & Wadsworth Dress Goods, Handkerchiefs, Tie Silks and  
 Grenadines. Selling Agents, Field, Morris, Fenner & Co., 55  
 White Street, and Albert Haager & Walburger, 60 Worth Street,  
 New York.

Arkwright Mill, Beach and Morton Streets ..... Paterson.

Dorgeval, P. Silk Looms. Dale Mill, Railroad Avenue... Paterson  
 Dumas & Taber. Dress Goods, Bolting Cloth and Loom Crepe.  
 Selling Agents, Lewis Bros. & Co., 88 Worth Street, New York.  
 Mills at Paterson and at Roslyn, L. I. .... Paterson.

\*Dunlop, John. Union Silk Works. Organzine, Sewing Silk, Machine Twist, Saddlers' and Embroidery Silks. Salesroom, 25 Mercer Street, New York.  
 Mills, Morton Street ..... Paterson.

Fletcher, John & Son. Handkerchiefs. Factory, 106 Straight Street, Paterson.

Fletcher, Joseph Commission Throwster. Factory, 119 Tyler Street, Paterson.

\*Franke, Louis. Tram and Organzine, Fringe Silk, Machine Twist and Silk Braids, especially prepared for Trimming Manufacturers. Salesroom, 110 Grand Street, New York.  
 Factory, cor. Jay and Clinton Streets ..... Paterson.

Freeman, H. H. & Co. Broad Silks, Handkerchiefs and Grenadines.  
 Dunlop Mill, cor. of Morton and Straight Streets... Paterson.

Frost, George. Throwster and Soft Silk Winder. (New mill building), Madison Street. .... Paterson.

Grant, E. (Reported out of business, Oct., 1880) 116 Slater Street, Paterson.

Greenwood Bros. Commission Throwsters. 51 Mechanic Street, Paterson.

Greenwood & Jackson. Commission Throwsters. Dale Mill, Railroad Avenue. .... Paterson.

Gregson, McCulloch & Co. Spun Silk. 42 Van Houten Street, Paterson.

Greppo, Claude. Silk Dyer. Office, 27 Mercer Street, New York.  
 Works, Dale Avenue and Slater Street. .... Paterson.

\*Grimshaw Bros. Grimshaw Mill. Handkerchiefs, Scarfs, Dress Goods and Millinery Silks. Salesroom, 71 Franklin Street, New York.

Mills, Dale Avenue and Slater Street. .... Paterson.

Grish, John. Satins, Dress Goods, Handkerchiefs and Chenille. Salesroom, 31 Walker Street, New York.

Benson Mills, 57 and 59 Bridge Street. .... Paterson.

\*Hamil & Booth. Passaic Silk Works and Hamil Mill. Tram and Organzine, Fringe Silks, Millinery and Fancy Silks and Ribbons. Salesroom, 96 and 98 Grand Street, New York.

Office of Mills, Ward Street. .... Paterson.

Handy, Robert. Dress Goods on Commission. 104 Straight Street, Paterson.

Hawks, M. J. & Co. Prussian Bindings, Galloons, &c. M. H. Chapin, Agent, 68 Greene Street, New York. Paterson.

Hamilton Mill, Mill Street. .... Paterson.

Holmes, W. D. Dress Goods, Handkerchiefs, &c. 11½ Fair Street, Paterson.

Hopper & Scott. Organzine and Tram. Hope Mill, Mill Street, Paterson.

Jones & Hopper. Dress Goods and Handkerchiefs. Watson Machine Co. Railroad Avenue. .... Paterson.

Little, W. & Co. Totowa Mill. Kearney Street. .... Paterson.

Lockett, John. Handkerchiefs, Dress Goods, Scarfs and Millinery Silks. Agents, Whitney & Mathews, 85 Leonard Street, New York. Paterson.

Dale Mills, Railroad Avenue. .... Paterson.

Lucas, Samuel. Dress, Millinery and Tie Goods and Handkerchiefs. Fair Street. .... Paterson.

Lyons Silk Works. Jerome Vacher, Supt. Handkerchiefs and Dress Goods. Selling Agents, Schoals & Howell, 34 Walker Street, New York. Paterson.

Mills. .... Paterson.

\*Mackay, J. P. Dress and Millinery Goods, Handkerchiefs and Veilings. Salesroom, 89 Leonard Street, New York. Paterson.

Mill, 60 to 66 Water Street. .... Paterson.

Martin, Adam & Co. Handkerchiefs, Millinery Silks and Dress Goods. 55 and 57 Van Houten Street. .... Paterson.

Marland, J. Handkerchiefs. 93 River Street. .... Paterson.

McAllister, James. Throwster. 32d Street and 10th Avenue. .... Paterson.

\*Meyenberg, S. M. Millinery Silks, Scarfs, Veils and Ties. Salesroom, 40 Lispenard Street, New York. Paterson.

Factories, Hoboken, N. J., and Ward Street. .... Paterson.

Miller & Brown. Dress Goods and Handkerchiefs. 93 River Street. .... Paterson.

Morlot, George. Silk Dyer. Office, 454 Broome Street, New York. Works, 32d Street and Tenth Avenue. .... Paterson.

Neuburger Braid, Co. L. & H. Neuburger. Silk Braids, Fancy Goods, Bindings, and Raw Silk Throwing on commission. Sales-rooms, 39 and 41 Walker Street, New York. Paterson.

Mills. .... Paterson.

Nightingale Bros. Plain and Figured Dress Goods, Satins, Tie Silks, Brocades, Tissues and Gauze. Agents, Wm. Whiteside, 107 and 109 Franklin Street, and Field, Morris, Fenner & Co., 55

and 57 White Street, New York. Office, 299 Broadway, New York.

Boudinot Mill, Straight Street..... Paterson.

Nightingale, James, Jr. Dale Mill, Railroad Avenue,.....Paterson.

Nightingale, James, Sr. Dress Goods, Handkerchiefs and Scarfs.

Agents, Whitney & Mathews, 85 Leonard Street, New York.

Totowa Silk Mill, 14 Kearney Street..... Paterson.

Paterson Dyeing Association. Silk Dyers. Black, Colored, Shaded and Printed Dyeing.

Franklin Mill, Mill Street, opposite Ellison..... Paterson.

Paterson Dyeing and Finishing Co. C. Greppo, President. Dyeing and Finishing Piece Goods. Office, 27 Mercer Street, New York.

Works opp. Van Houten and Mill Streets..... Paterson.

\*Pelgram & Meyer. Ribbons and Dress Goods. Salesrooms, 57 and 59 Greene Street, New York.

Mills, Van Houten Street..... Paterson.

Penrose & Co. Handkerchiefs and Dress Goods. Selling Agents, Ammidown, Lane & Co., 87 and 89 Leonard Street, New York.

Mills, cor. Fair and Washington Sts., and Dale Mills..... Paterson.

\*Phoenix Manufacturing Co. Albert Tilt, President and Treasurer. Handkerchiefs, Brocade, Dress Goods, Fancy Ribbons and Ties. Agents, Greeff & Co., 90 to 94 Grand Street, New York.

Phoenix Mill, Van Houten Street..... Paterson.

\*Pioneer Silk Co. John Ryle, President. Tram, Organzine and Ribbons.

Murray Mills, Mill Street..... Paterson.

Pocachard, A. Dress Silks and Novelties.

Factory, 173 to 177 Market Street..... Paterson.

Rousset, J. Silk Dress Goods and Millinery Silks.

Hope Mill, Mill Street..... Paterson.

\*Ryle, John C. & Co. Commission Silk Throwsters.

Central Silk Mill, Ellison Street..... Paterson.

Schmidt, F. C. & Co. Soft Silk Winders.

Dale Mill, Dale Avenue..... Paterson.

\*Scott, John Jackson. Sewing Silk and Machine Twist, Fishing Lines, and Silk Dyeing.

Factory, Grant Locomotive Works..... Paterson.

See & Sheehan. Silk Dyers. Office, 96 Grand Street, New York.

Dye Works, Ellison Street..... Paterson.

Sherratt, Thomas. Dress Goods and Handkerchiefs. 60 Railroad Avenue..... Paterson.

\* Denotes connection by membership with the Silk Association of America.

Singleton, George. Tram, Organzine, Sewing and Machine Twist.  
 Watson Mill, Railroad Avenue. .... Paterson.  
 Southworth Bros. Dress Goods and Handkerchiefs, Agents, Am-  
 midown, Lane & Co., 87 and 89 Leonard Street, New York.  
 Mills, Morton Street. .... Paterson.  
 \*Strange, William & Co. Silk Goods, Ribbons, Millinery and Dress  
 Silks, Tram and Organzine. Salesrooms, Strange & Bro., 42 and 44  
 Greene Street, New York.  
 Mills, Essex and Paterson Streets. .... Paterson.  
 Urbahn, A. 93 River Street. .... Paterson.  
 Walthall, James & Son. Floss and Embroidery Silks, Tram, Sewing  
 Silk, Machine Twist and Saddlers' Heavy Canton Twist.  
 Mill, 93 River Street. .... Paterson.  
 \*Weidmann, J. Silk Dyer. Black Dyeing a specialty. New York  
 Office, 46 Howard Street.  
 Dye Works, Cor. Paterson and Ellison Streets. .... Paterson.  
 Winfield, A. D. & Co. Silk and Mohair Braids, Prussian Bindings,  
 Galloons, and Coat Hangers. Agent, John Stuart, 71 Franklin  
 Street, New York.  
 Union Works, cor. Market and Spruce Streets, Paterson.

#### NEW JERSEY, Continued.

Bannigan, P. & I. Tram, Organzine, Fringe Silks, Ribbons and  
 Satin Dress Goods. New York Office, 68 Greene Street.  
 Mills and Salesroom. .... Lake View.  
 \*Chaffanjon C. "Favorite" Silk Manufactory. Black Gros Grain,  
 Faille, Serges and Satin de Chine. Agents, Wilmerding, Hoguet  
 & Co., 64 and 66 White Street, New York.  
 Mills, 177 to 189 South Street. .... Jersey City Heights.  
 \*Columbia Silk Manufacturing Co. John Dunlop, Pres. and Treas.;  
 L. Chapperon, Sec'y. Gros Grains and Figured Dress Goods.  
 Selling Agents, Fred'k Victor & Achelis, 66 Leonard Street, New  
 York.  
 Factory, Grand and 3d Streets. .... Hoboken.  
 \*Comby, John. Black and Colored Gros Grains. Salesroom, C.  
 Passavant & Co., Agents, 222 Church Street, New York.  
 Mills. .... West Hoboken.  
 \*Cutter, John D. & Co. Inslee A. Hopper, late President of the  
 Singer Manufacturing Co., Special Partner. Sewing Silks, Ma-  
 chine Twist, Tram, Organzine, Gros Grain, Dress Goods, Serges,  
 Satin de Chine and Sewing Silk Braids. Salesrooms, 329 and 331  
 Broadway, New York; 442 Washington Street, Boston; 735 Mar-

ket Street, Philadelphia; 127 Fifth Avenue, Chicago, and Palace Hotel, San Francisco.

Newark City Silk Mills. .... Newark.

Edson, T. Handkerchiefs. 90 Springfield Avenue. .... Newark.

Ehler, A. & B. Progress Mills. Dress Goods, Serges, Satin de Chine.

Mill, 564 and 566 Palisade Avenue. .... Jersey City Heights.

Field, Morris, Fenner & Co. Plain, Black and Colored Silks. Sales-rooms, 55 and 57 White Street, New York.

Factory, corner of Columbia and Lincoln Streets. ....

Jersey City Heights.

Gazzera, A. Throwster. Factory and Salesroom. (P. O. Address, Paterson, N. J.). .... Haledon.

\*Givernaud Bros. Black and Colored Dress Silks, Serges, Satin de Lyon, Damassés, Satins and Armures. Office, 46 Howard Street, New York.

Mills. .... West Hoboken, Homestead and Hackensack.

Jackson George. Braids. Selling Agent, 104 Duane Street, New York.

Factory. .... Little Falls.

\*Jourdeuil & Pinkney, Dress Silks, Serges and Satin de Chine. Salesroom, 123 Mercer Street, New York.

Mills. .... West Hoboken.

Kamp, M. & C. Dress Goods. Concordia Mill, 19 to 24 Bloom Street, Town of Union. .... Weehawken.

Laubsch & Gélan. Brocades, Plain Dress Goods and Neck-wear Silks. Factory, corner of Palisade Avenue and Columbia Street, Weehawken.

Lovatt, Charles. Sewings and Machine Twist. 36 Crawford Street, Newark.

\*Meyenberg, S. M. (See Paterson, N. J.) Mill at. .... Hoboken.

\*New York Silk Manufacturing Co. Gros Grain Ribbons, Beltings, Hat Bindings, Elastic Goods. Office and Salesroom, 70 Greene Street, New York.

Factory. .... Marion, N. J.

Pages, J. B. Silk Dyeing Works. 97 and 101 Adams Street, Hoboken.

Perks, George A. & Co. Upholstery Trimmings. Salesroom, 34 South Second Street, Philadelphia.

Mill. .... Camden.

Schnely & Grossenbacher. Broad Goods and Jacquard Silks. Office and Factory. .... Clifton.

\* Denotes connection by membership with the Silk Association of America.

\*Simon, Herman. Dress Goods and Fancy Silks. Agents, E. Oelberman & Co., 57-63 Greene Street, New York.

Mill, Garden and Morgan Streets, Town of Union, Weehawken.

Sonntag H. Dress Trimmings. 219 Congress Street..... Jersey City Heights.

Spangenberg, C., Jr. Upholstery Trimmings. Factory and Salesroom, 221 Park Avenue..... Hoboken.

Teste, Molinero & Co. Dress Goods, Satins, Serges and Tie Silks. Agents, A. Person, Harriman & Co., 457 Broome Street, New York.

Mills, Paterson Avenue..... West Hoboken.

Ther, William. Laces, Hair Nets and Mitts. Office, 383 Broadway, New York. Agent, M. Drost, 18 Summer Street, Boston.

Factory and Salesroom ..... New Brunswick.

Wortendyke Manufacturing Co. C. A. Wortendyke, President and Treasurer. Tram, Organzine, Fringe Silks, Dress Goods. and Handkerchiefs. Selling Agents, Ammidown, Lane & Co., 87 and 89 Leonard Street, New York.

Brick Mill..... Wortendyke.

## NEW YORK.

### NEW YORK CITY.

Ackermann, W. C. Upholstery Trimmings..... 233 Sixth Avenue.

Adams, R. & Co. (See *Birmingham, Conn.*) Ribbons, Handkerchiefs and Mosquito Nets..... 10 Greene Street.

Adams, R. & H. (See *Paterson, N. J.*) Salesrooms, 16 Greene Street, and..... 83 and 85 Greene Street.

Anderson, John & Son. (See *Paterson, N. J.*) Salesroom of Selling Agents..... 85 Leonard Street.

Ashley, William. (See *Paterson, N. J.*) Salesroom of Selling Agents, 85 Leonard Street.

Ashley & Bailey. (See *Paterson, N. J.*) Salesrooms..... 85 Leonard and 466 Broome Streets.

American Silk Label Manufacturing Co. George Hey, Manager. Silk Labels and Coat Hangers. Agencies at Boston, Chicago, Cincinnati, Philadelphia, and St. Louis.

Salesroom and Factory..... 389 Broome Street.

\*Aub, Hackenburg & Co. (See *Philadelphia.*) Salesroom..... 15 Mercer Street.

Auerbach & Co. (See *Paterson, N. J.*) Salesroom, 481 Broadway.

\* Denotes connection by membership with the Silk Association of America.

Bannigan, P. & I. (See <i>Lakeview, N. J.</i> )	Salesroom.....
	68 Greene Street.
Barnard, O. H. Undertakers' Trimmings.....	511 to 513 West 30th Street.
Basch & Hirsch. Dress Trimmings and Silk Fringes .....	55 Mercer Street.
Beierstedt, Carl. Upholstery Trimmings.....	138 Canal Street.
* Belding Bros. & Co. (See <i>Rockville, Conn.</i> ) Salesroom.....	456 Broadway.
Benz, Oscar. Dress Trimmings.....	354 East 10th Street.
Bernstein, A. Millinery Trimmings .....	1680 Lexington Avenue.
Bernstein & Co. Cords, Tassels and Specialties.	133 Mercer Street.
Bernstein, Samuel. Fringes, Dress Trimmings and Ribbons.	
Factory and Salesroom .....	91 Bleecker Street.
Bertschy, Bertha Viola. Ribbons, Fringes, Trimmings and Noveltyies .....	Corner 57th Street and 10th Avenue.
Betts, J. Silk Braids.....	519 West 45th Street.
Blau & Hoffman. Fringes, Chenille and Dress Trimmings....	51 Greene Street.
Bodmer, Edward. Silk Dyer.....	423 West 53d Street.
Bodmer, Emil & Co. Silk Dyers.	404 West 50th Street.
Boesen, Pauline. Fringes and Passementerie....	45 Mercer Street.
* Booth, J. H. & Co. (See <i>Paterson N. J.</i> ) Salesroom.....	54 Howard Street.
Boston Elastic Fabric Co. (See <i>Chelsea, Mass.</i> ) Salesroom.....	
	102 Chambers Street.
* Bottum, C. L. (See <i>Northampton, Mass.</i> ) Salesroom of Selling Agents.....	329 and 331 Broadway.
Braillard, L. J. Silk Dyer.....	418 and 420 West 27th Street.
* Brainerd & Armstrong Co. (See <i>New London, Conn.</i> ) Salesroom,	
	469 Broadway.
Broomhall, George L. (See <i>Paterson, N. J.</i> ) Salesroom of Selling Agents.....	85 Leonard Street.
Brown, Edward G. Upholstery Trimmings.	
Factory and Salesroom.....	787 and 789 Broadway.
* Brown, L. D. & Son. (See <i>Middletown, Conn.</i> ) Salesroom....	
	439 Broadway.
Brown, Wm. P. Ribbons.....	457 to 463 West 45th Street.
Buschamnn, C. H. & Co. Fringes, Dress Trimmings, Cords and Tassels.....	36 East 14th Street.
Butler, H. V., Jr. & Co. Wholesale Paper Dealers; Silk Ribbon	

\* Denotes connection by membership with the Silk Association of America.

Paper a Specialty. General Agents for the Ivanhoe Manufacturing Co. ....	32 Reade Street.
Camp, McKeans & Co. Trimmings, Fringes, Cords and Tassels. Factory and Salesroom. ....	19 Mercer Street.
*Chaffanjon, C. (See <i>Jersey City Heights, N. J.</i> ) Salesroom of Selling Agents. ....	64 White Street.
Chapin, J. L. (See <i>Paterson, N. J.</i> ) Salesrooms of Selling Agents. ....	96 Reade Street and 66 Worth Street.
*Cheney Bros. (See <i>South Manchester, Conn.</i> ) Salesrooms. ....	477, 479 and 481 Broome Street.
Childs, Ruthan (See <i>Hillsborough Bridge, N. H.</i> ) Salesroom of Selling Agents. ....	57 Mercer Street.
City Button Works. (Erlanger & Liebman, Proprietors.) Silk and Crochet Buttons. Factory, 116 Walker Street; Office. ....	154 Centre Street.
Clark, R. S. (See <i>Mount Carmel, Conn.</i> ) Salesrooms of Selling Agents, 227 Broadway and 57 Mercer Street.	227 Broadway and 57 Mercer Street.
Cohen, B. L. Embossing Velvet and Watering Silk. ....	178 Centre Street.
Collet, A. Upholstery Trimmings. Factory and Salesroom. ....	900 Broadway.
*Columbia Silk Manufacturing Co. (See <i>Hoboken, N. J.</i> ) Salesroom of Selling Agents, 66 Leonard Street. ....	66 Leonard Street.
*Comby, John. (See <i>West Hoboken, N. J.</i> ) Salesroom of Selling Agents. ....	222 Church Street.
*Copecutt, William H. & Co. (See <i>Yonkers, N. Y.</i> ) Salesroom. ....	31 Greene Street.
Crawford, Paul. (See <i>Paterson, N. J.</i> ) Salesroom of Selling Agents, 107 and 109 Franklin Street.	107 and 109 Franklin Street.
*Cutter, John D. & Co. (See <i>Newark, N. J.</i> ) Salesrooms. ....	329 and 331 Broadway.
Dale, Frederick S. (See <i>Paterson, N. J.</i> ) Salesrooms of Selling Agents. ....	419 and 421 Broadway.
Dalton, Joseph. Hair Nets, Laces and Canvas. Factory, 108 and 110 Worcester Street. Selling Agents, Cook, Valentine & Co. ....	327 Broadway.
Dean & Matthews. Fringes and Dress Trimmings. ....	19 East 14th Street.
Deppeler & Kammerer. Fringes and Dress Trimmings. Factory and Salesroom. ....	108 Grand Street.
*Dexter, Lambert & Co. (See <i>Paterson, N. J.</i> ) Salesrooms. ....	33 and 35 Greene Street.

Dietzel & Green. Fancy Trimmings. Factory, 398 Broome Street, New York. Agency, 33 Roedingsmarkt, Hamburg, Germany. Office.....601 Broadway.

Doherty & Wadsworth. (See *Paterson, N. J.*) Salesrooms of Selling Agents .....55 White and 60 Worth Streets.

Dreyfus Bros. Fringes, Upholstery Trimmings and Passementerie. 88 Prince Street.

Dreyfus & Hecht. Dress Trimmings.....107 Greene Street.

Dumas & Taber. (See *Paterson, N. J.*) Salesroom of Selling Agents 88 Worth Street.

\*Dunlop John. (See *Paterson, N. J.*) Salesroom...25 Mercer Street.

Eicke, Edward. Military and Schutzen Trimmings.....: ..... 157 Canal Street.

Elison, Adolph S. Fringes, Passementerie, Cords, Tassels, Chenille, Buttons and Novelties.....103 and 105 Greene Street.

Erskine, John & Co. Ribbons. Factory, 517 to 525 West 45th Street. Salesroom..... .....52 Greene Street.

Eschbach, S. & Son. Silk Dyers.....341 West 44th Street.

Estberg, E. (See *Brooklyn, E. D.*) Office.....460 Pearl Street.

\*Eureka Silk Manufacturing Co. (See *Canton, Mass.*) Salesroom, 7 Mercer Street.

Fessler, H. Cigar Ribbons, Galloons and Prussian Bindings..... 503 to 507 First Avenue.

Field, Morris, Fenner & Co. (See *Jersey City Heights, N. J.*) Salesroom..... .....55 White Street.

Fisher, M. Dress Trimmings.....471 Broadway.

Fisher & Toff. Dress Trimmings. Factory and Salesroom..... 8 Howard Street.

\*Franke, Louis. (See *Paterson, N. J.*) Salesroom..... 110 Grand Street.

Friend, Hermann. Trimmings and Passementerie. 604 Broadway.

\*Funke, Hugo. (See *College Point, L. I., N. Y.*) Salesrooms..... 23 and 25 Greene Street.

Gartner & Friedenheit. Handkerchiefs.....89 Grand Street.

Gehlert, Edward. Fringes, Dress Trimmings and Passementerie. 2327 Fourth avenue.

Gimpel, Henry. Dress Trimmings. Factory and Salesroom ..... 403 Broadway.

\*Givernaud Bros. (See *Hoboken, N. J.*) Salesroom..... 46 Howard Street.

\*Glendale Elastic Fabric Co. (See *Easthampton, Mass.*) Salesroom, 8 Thomas Street.

\* Denotes connection by membership with the Silk Association of America.

Glenwood Mills. (See <i>Easthampton, Mass.</i> )	Salesroom	.....
		57 Mercer Street.
Glockmann & Lingg.	Fringes and Dress Trimmings.	.....
		810 Broadway.
Gminder, Frederick & Co.	Fringes and Dress Trimmings. Agencies in Philadelphia and Chicago.	.....
	Salesroom, 66 Greene Street.	
Factory	.....	10th Avenue and 45th Street.
Godshalk, E. H. (See <i>Philadelphia, Pa.</i> )	Salesroom	.....
		71 Franklin Street.
Goodman, B.	Silk Webbing	.....
		7 White Street.
Gossage, Charles & Co. (See <i>Chicago, Ill.</i> )	Salesroom of Selling Agents	.....
		Cor. Church and Worth Streets.
Graf, Jacob.	Embroidery by Hand and Machine	.....
		215 Church Street.
Graham, John & Son.	Upholstery and Undertakers' Trimmings.	
Factory and Salesroom	.....	516 to 524 West 35th Street.
Greenbaum, Louis & Son.	New York Cord and Tassel Mill. Pic- ture and Curtain Cords and Tassels.	.....
	Factory and Salesrooms	
		65 and 67 Duane Street.
Greppo, Claude. (See <i>Paterson, N. J.</i> )	New York Office	.....
		27 Mercer Street.
*Grimshaw Bros. (See <i>Paterson, N. J.</i> )	Salesroom	.....
		71 Franklin Street.
Grish, John. (See <i>Paterson, N. J.</i> )	Salesroom of Selling Agents,	
		31 Walker Street.
Grollimund, J.	Cigar Ribbons	.....
		461 West 40th Street.
Hafelfinger Jacob.	Fringes and Dress Trimmings. Factory and Salesroom	.....
		444 West 38th Street.
Hafelfinger, Fritz.	Fringes and Dress Trimmings	.....
		461 West 40th Street.
Hafelfinger, John.	Dress Trimmings	.....
		462 10th Avenue.
*Hamil & Booth. (See <i>Paterson, N. J.</i> )	Salesroom	.....
		96 and 98 Grand Street.
Hammond & Knowlton. (See <i>Putnam, Conn.</i> )	Salesroom	.....
		496 Broadway.
Harris & Klein.	Dress, Cloak and Millinery Trimmings and Hat Cords	.....
		7 Washington Place.
Haskell Silk Co. (See <i>Saccarappa, Me.</i> )	Salesroom of Selling Agents,	
		57 Mercer Street,
Haubner, L. D.	Upholstery Trimmings. Factory and Salesroom.	
		606 Eighth Avenue.

Hawks, M. J. & Co. (See <i>Paterson, N. J.</i> )	Salesroom of Selling Agents	68 Greene Street.
*Hayden, J. H. & Son. (See <i>Windsor Locks, Conn.</i> )	Salesroom of Selling Agents	57 Mercer Street.
*Hayes, Thomas F. Fringes and Dress Trimmings. Factory and Salesroom	5 to 9 Union Square.	
Heidenreich, John. New York Silk Dyeing Works. Silk Dyer.	543 and 545 Tenth Avenue.	
Heineman, Jacob. Dress Trimmings	650 Broadway.	
Heminway, M. & Sons. Silk Co. (See <i>Watertown, Conn.</i> )	Salesrooms	78 Reade Street and 99 Church Street.
Henze, Marcus. Upholstery Trimmings and Fringes. Factory and Salesroom	729 Broadway.	
Hertlein & Schlatter. Fringes and Dress Trimmings. Factories, 29 Mercer and 210 Canal Streets; Office, 29 Mercer Street.		
Hess, Isaac. Dress and Cloak Trimmings, Fringes, Cords and Tassels. Agency, 1 N. 5th Street, Philadelphia. Salesroom and Factory	5 Howard Street.	
*Hinze & Co. Silk Refinishing Works	47 Mercer Street.	
Hirsh, M. & Son. Dress Trimmings and Passementerie	420 Broome Street.	
Hobley Bros. (See <i>Brooklyn, E. D.</i> )	Salesroom, 107 Grand Street.	
Hofmann, F. Braids, Cords and Tassels	91 Mercer Street.	
*Holland Manufacturing Co. (See <i>Willimantic, Conn.</i> )	Salesrooms, 435 Broadway.	
Horn, Henriette. Ribbons	231 West 29th Street.	
*Horstmann, Wm. H. & Sons. (See <i>Philadelphia.</i> )	Salesroom	410 Broadway.
Howard, George. Millinery Silks. Factory and Salesroom	404 West 33d Street.	
*Itschner (Werner) & Co. (See <i>Philadelphia.</i> )	Salesroom	70 Mercer Street.
Jackson, George. (See <i>Little Falls, N. J.</i> )	Selling Agent	104 Duane Street.
Jackson & Co. Upholstery Trimmings.	115 to 121 East 13th Street.	
*Jennings, A. G. (See <i>Brooklyn, N. Y.</i> )	Salesrooms	473 and 475 Broome Street.
*Jourdeuil & Pinkney. (See <i>West Hoboken, N. J.</i> )	Salesroom	123 Mercer street.
Judson, Charles. Webs and Suspenders	73 Leonard Street.	
Kammerer & Bockstoever. Fringes, Dress Trimmings, Cords and Tassels	111 Greene Street.	

Kelty, G. L. & Co. (See *Brooklyn, E. D.*) Salesroom..... 744 Broadway.

Kelsea, Joseph N. (See *Antrim, N. H.*) Salesroom of Selling Agent..... 57 Mercer Street.

King, Alexander & Co. Dealers in Organzine, Tram, Fringes, Machine Twist and Sewing Silk. Salesroom, 54 Leonard Street.

Kingman & Freeman. Dealers in Organzine, Tram, Fringe Silk, &c. Agents for Streeter & Mahew, Glenwood Mills, Haskell Silk Co., R. Childs, J. N. Kelsea, and R. S. Clark. Salesroom..... 57 Mercer Street.

Klous, Seman & Co. Novelty Silk Works. Silk Novelties..... 113 Mercer Street.

Krause, R. Embossing Silk and Velvet..... 138 Wooster Street.

Kresse, F. C. Dress Trimmings. (Not found Oct., 1880.) Formerly, 300 Canal Street.

Krumsick, Rudolph. Fringes and Dress Trimmings. Factory and Salesroom..... 29 Howard Street.

Kunz, Samuel. Ribbons and Fringes..... 413 East 25th Street.

Kursheedt Manufacturing Co. Dress and Upholstery Trimmings, 190 to 194 South Fifth Avenue.

Langlotz, Louis. Dress and Cloak Trimmings..... 461 West 40th Street.

Laurent, Eugene. Needle-wrought Silk Buttons..... 225 East 125th Street.

Lehman, Reinhardt & Selling. Undertakers' Supplies..... 105 to 111 Crosby Street.

Leiter, J. H. Upholstery Trimmings and Gimp..... 210 and 212 Canal Street.

\*Leonard Silk Co. (See *Warehouse Point, Conn.*) Salesroom..... 140 Church Street.

Leschhorn, F. & Co. Dress and Cloak Trimmings, Cords, Tassels, Chenilles and Buttons. Factory and Salesroom, 21 Howard Street.

Lindenthal Bros. Upholstery and Drapery Trimmings. Agency, Boston. Office..... 739 and 741 Broadway.

lipper, M. W. & Co. (See *Philadelphia.*) Salesroom..... 338 Broadway.

Lips & Nathan. Lyons and Crefelder Silk Refinishing Establishment. Factory and Office..... 28 Howard Street.

Löbenstein, S. Upholstery Trimmings..... 38 East 14th Street.

Lockett, John. (See *Paterson, N. J.*) Salesroom of Selling Agents, 85 Leonard Street.

Loehrs, Charles & Son. Fringe Ties..... 105 Prince Street.

Lowenstein, J. & Co.	Fringes, Cords and Passementerie.....	85 Walker Street.
*Loth, Joseph & Co.	Ribbons and Bindings. Salesroom, 458 Broome Street. Factory.....	517 to 523 West 45th Streets.
Lyons Silk Works.	(See <i>Paterson, N. J.</i> ) Salesroom of Selling Agents.....	34 Walker Street.
Macfarlane, James S.	(See <i>Mansfield Centre, Conn.</i> ) Salesroom...	43 Walker Street.
*Mackay, J. P.	(See <i>Paterson, N. J.</i> ) Salesroom, 89 Leonard Street.	
Mackie, J. B.	Sewing Silk and Machine Twist Spooler.....	227 West 22d Street.
Maidhof, J.	Fringes and Dress Trimmings, Cords, Tassels and Chenille Fringes. Agencies, Philadelphia, Chicago and San Francisco. Factory and Salesroom.....	401 Broadway.
Manchester Gimp Co.	(See <i>Brooklyn, E. D.</i> ) Sale-room.....	429 Broome Street.
Mandel, Henry.	Dress Trimmings, Braids, Cords and Molds.....	114 Centre Street.
Mantoue & Boehm.	Fringes and Dress Trimmings,.....	69 Mercer Street.
Martin, Adam & Co.	(See <i>Paterson, N. J.</i> ).....	
	Salesroom of Selling Agents,.....	84 Franklin Street.
Martin, Charles N.	Sewing Silk and Twist.....	
	Salesroom,.....	350 Canal Street.
Masius, Leopold.	Fringes and Braids,.....	647 Broadway.
Matter, John.	Silk Dyer,.....	333 West 44th Street.
Menges, A. & Co.	Dress and Cloak Trimmings,.....	644 and 646 Broadway.
*Meyenberg, S. M.	(See <i>Paterson, N. J.</i> ).....	
	Salesroom,.....	40 Lispenard Street.
Meyer, L. & Co.	Upholstery Trimmings. Factory and Salesroom,	
		424 Broome Street.
Moeller, Frederick.	Yarns .....	61 Lispenard Street.
Moeser, James.	Upholstery, Dress and Cloak Trimmings.....	
		117 Macdougal Street.
Moll, August. (See <i>Brooklyn, N. Y.</i> )	Salesroom, 109 Grand Street.	
Morlot, George. (See <i>Paterson, N. J.</i> ).....		
	New York Office,.....	454 Broome Street.
Morrison, James.	Dress and Cloak Trimmings..	28 Howard Street.
Müller, Ernst.	Millinery Trimmings.....	
	Factory and Salesroom,.....	127 Grand Street.

\* Denotes connection by membership with the Silk Association of America.

LIBRARY OF  
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ALLAHABAD

*Murray, Russell. Dealer in Organzine and Tram, and English and Domestic Cotton Yarns.....	52 Greene Street.
Neuburger Braid Co. (See <i>Paterson, N. J.</i> ).....	
Salesrooms.....	39 and 41 Walker Street.
Neustadter, William. Dealer in Tram, Organzine and Spun Silk.....	83 Mercer Street.
Salesroom,.....	
New, Jacob. Ribbons.....	
Factories, 529 to 533 West 54th, and 522 to 526 West 55th Street; Salesroom,.....	63 Greene Street.
*New York Silk Manufacturing Co. (See <i>Marion, N. J.</i> ).....	
Salesroom,.....	70 Greene Street.
New York Woven Label Manufacturing Co. Wm. Friedhof. Woven Silk Labels and Hangers for Coats, Hats and Shirts; also Silk Badges.....	
Factory, 52 Mercer Street; Office,.....	479 Broadway.
Nightingale Bros. (See <i>Paterson, N. J.</i> ).....	
Salesroom of Selling Agents, 107 Franklin Street and 55 White Street,.....	299 Broadway.
Office,.....	
Nightingale, James, Sr. (See <i>Paterson, N. J.</i> ).....	
Salesroom,.....	70 Greene Street.
*Nonotuck Silk Co. (See <i>Florence, Mass.</i> ).....	
Salesroom,.....	19 Mercer Street.
Nordheim & Deimel. Upholstery Trimmings.....	734 Broadway.
O'Brien, Maurice. Worsted. Worsted and Silk, and Silk Upholstery Trimmings. Factory and Salesrooms,.....	
.....	90 and 92 Bowery.
*Oneida Community. (See <i>Community, N. Y.</i> ) Thomas Handy, Agent.....	
Salesroom,.....	387 Broadway.
Opper, Morris. Dress Trimmings.....	
Factory and Salesroom,.....	684 Broadway.
Owen & Stiffson. Bullion, Fancy and Chenille Fringes, Borders, Galloons, Gimp, Cords and Tassels.....	109 East 13th Street.
Paterson Dyeing and Finishing Co. (See <i>Paterson N. J.</i> ).....	
New York Office,.....	27 Mercer Street.
*Pelgram & Meyer. (See <i>Paterson, N. J.</i> ).....	
Salesrooms,.....	57 and 59 Greene Street.
Penrose & Co. (See <i>Paterson, N. J.</i> ).....	
Salesroom of Selling Agents,.....	87 Leonard Street.
Phillips, A. L. & Co. Cloak, Furriers' and Hatters' Trimmings.....	
Salesrooms,.....	121 Spring Street.
*Phoenix Manufacturing Co. (See <i>Paterson, N. J.</i> ).....	
Salesrooms,.....	90 to 94 Grand Street.

\* Denotes connection by membership with the Silk Association of America.

Piek, S. Fringes and Cloak Trimmings. Office, 607 and 609 Broadway.  
 Factory, . . . . . Bleecker Street and South Fifth Avenue.

Pocachard, A. (See *Paterson, N. J.*) Salesroom of Selling Agents,  
 . . . . . 55 White Street.

Popper & Halm. Dress Trimmings . . . . . 177 Mercer Street.

Prosnitz, D. Cords, Ornaments and Tassels . . . . . 424 Broome Street.

Rauch, John. Novelty Embroidery Co. Embroideries by hand  
 and machine. . . . . 12 Lispenard Street.

Reitmeyer, Wm. (See *Brooklyn, N. Y.*) . . . . .

Salesroom, . . . . . 260 Canal Street.

Reshower, Joseph. Dress Trimmings, Fringes, Ornaments and  
 Trimmings. . . . . 3 East Fourth Street.

Romanin, William. Cords and Tassels . . . . . 552 Broadway.

Ryer & Wagner. Upholstery Trimmings, Frame Fringes, Tassels,  
 Cord and Curtain Loops. . . . .

Factory and Salesrooms, . . . . . 167 and 169 Canal Street.

\*Ryle, William. Dealer in Thrown Silks (also Importer of Raw  
 Silks.) . . . . . 54 Howard Street.

Sacks & Bro. Silk Fringes. Factory and Salesroom, . . . . .  
 34 Greene Street.

Salate Bros. Dress Trimmings. Factory and Salesroom, . . . . .  
 170 and 172 Centre Street.

Sandmann, Philip. Furriers', Dress and Cloak Trimmings. . . . .  
 263 Bowery.

\*Sauquoit Silk Manufacturing Co. (See *Sauquoit, N. Y.*) . . . . .

Salesroom, . . . . . 54 Howard Street.

Schmadeke & Underhill. Dress and Cloak Trimmings. . . . .

Factory and Salesroom, . . . . . 444 Broome Street.

Schmid, Francis J. Coach Laces and Carriage Trimmings. . . . .

Factory and Salesroom. . . . . 5 West Fourth Street.

Schmidt, C. A. Drapery and Upholstery Trimmings. . . . .

Factory and Salesroom, 83 and 85 Chambers, and 65 and 67  
 Reade Streets.

Schmutz, K. Dress and Millinery Trimmings. 504 West 45th Street.

Schnitzler, B. Cords, etc. . . . . 158 South Fifth Avenue.

Schoals & Howell. (See *Lyons Silk Works, Paterson, N. J.*) . . . . .

Salesroom, . . . . . 34 Walker Street.

Schwensen & Becker. Fringes, Dress Trimmings, Chenille, Cords,  
 Tassels and Ornaments. Agencies, at Boston, Chicago and Philadelphia.

Factory and Salesroom, . . . . . 15 and 17 Mercer Street.

\* Denotes connection by membership with the Silk Association of America.

\*Seavey, Foster & Bowman. (See *Eureka Silk Manufacturing Co., Canton, Mass.*) Salesroom. .... 7 Mercer Street.

See & Sheehan. (See *Paterson, N. J.*) New York Office, 96 Grand Street.

\*Silbermann, J. & Co. Bonnet and Belt Ribbons, Dress Trimmings, Silk Handkerchiefs and Piece Goods. ....

Factories, 452 to 456 Tenth Avenue, and at Main Street, Poughkeepsie. New York Salesroom, 53 Greene Street.

Silberstein, M. Furriers' Trimmings. .... 115 Mercer Street.

\*Simon, Herman. (See *Weehawken, N. J.*) Salesrooms. .... 57 to 63 Greene Street.

\*Skinner, Geo. B. & Co. (See *Yonkers, N. Y.*) Salesroom. .... 27 Mercer Street.

\*Skinner, William. (See *Holyoke, Mass.*) Salesroom. .... 43 Mercer Street.

Smith, E. B. (See *Gurleyville, Conn.*) Salesroom of Selling Agents, 456 Broadway.

Southworth Bros. (See *Paterson, N. J.*) Salesrooms of Selling Agents. .... 87 and 89 Leonard Street.

Splitdorf, Henry. Silk Covering to Telegraph Wire. .... 180 Centre Street.

Springer, R. & Co. Dealers in Tram and Twist. .... 464 Broome Street.

\*Springfield Silk Co. (See *Springfield, Mass.*) Salesroom. .... 73 Leonard Street.

Stanton Brothers. Commission Merchants and Manufacturers of Silk and Lace Novelties. .... 466 Broome Street.

\*Stearns, John N. & Co. Black and Colored Gros Grain Silks, Brocaded Dress Silks, Plain and Fancy Handkerchiefs. Factories, 213 to 221 East 42d Street, and 214 to 224 East 43d Street. Salesroom. .... 458 Broome Street.

Stehr, Carl. Silk and Cotton Labels and Coat Hangers for Clothiers. 22 Eldridge Street.

Steinhardt, A. Cords and Tassels. .... 147 Wooster Street.

Stepath, Charles. Dress and Cloak Trimmings, Fringes, Cords and Tassels. Factory and Salesroom. .... 50 Mercer Street and 477 Broadway.

\*Strange, William & Co. (See *Paterson, N. J.*) Salesrooms. .... 42 and 44 Greene Street.

Straus, F. A. Cotton, Worsted and Silk Yarns. .... 29 Howard Street.

Streeter & Mahew. (See *Shelburne Falls, Mass.*) Salesroom of Selling Agents. .... 57 Mercer Street.

Sturzenegger, R. Embroideries.....321 East 6th Street.

Sutro Bros. Silk, Mohair, Cotton and Gilt Braids, Tubular Braids and Hat Cords, Bow Ties, Fringe Braids, and Braided Cords. Sole Manufacturers of Braids on Patent Cards. Agencies at Boston and Chicago. Factory and Salesroom.....  
35 and 37 Wooster Street.

Teste, Molinero & Co. (See *West Hoboken, N. J.*) Salesroom of Selling Agents.....457 Broome Street.

Thalmann, N. Silk Ribbons.....19th Street and 11th Avenue.

Ther, William. (See *New Brunswick, N. J.*) Office, 383 Broadway.

Thorp, James H. & Co. (See *Manchester Gimp Co., Brooklyn.*) Salesrooms.....429 Broome Street.

Thorp, Robert & Sons. Galloons, Prussian Bindings, Ribbons, Silk, Cotton and Mohair Braids.....52 Greene Street.

Tilt, B. B. & Son. (See *Phoenix Manufacturing Co., Paterson, N. J.*).. 90 to 94 Grand Street.

Tingue, House & Co. Mohair, Genappe, Worsted, Cotton and Spun Silk Yarns .....56 Reade Street.

Turner, P. W. & Son. (See *Turnerville, Conn.*) Salesroom.....27 Greene Street.

Ulmer & Pauer. Silk Dyers.....13 to 17 Crosby Street.

Union Braiding Works. John Henry Vogt. Silk, Cotton and Worsted Braids, Dress and Millinery Trimmings and Novelties. Factory, 13 Baxter Street. Office.....421 Broadway.

Van Liew, H. A. Dress Goods. Factory, 617 West 39th Street. Office.....140 Church Street.

Vickers & Weston. (See *Philadelphia.*) Salesroom.....52 White Street.

Victory Silk Mills. (See *Jersey City Heights, N. J.*) Salesroom of Selling Agents,.....55 White Street.

\*Walter, Richard. Organzine, Tram and Ribbons.....  
Mills, 452 to 458 West 46th Street. Salesroom of Selling Agents.....222 and 224 Church Street.

Webendorfer, H. & Co. Cords, Fringes, Tassels and Trimmings....  
288 Bowery.

Wehrlein, M. & Co. Silk Dyers.....  
10th Avenue, bet. 44th and 45th Streets.

\*Weidmann, J. (See *Paterson, N. J.*) New York Office,.....46 Howard Street.

Weil, L. Dress and Cloak Trimmings,.....75 Greene Street.

Weinberg, R. & Son. Upholstery Trimmings,.....  
740 and 742 Broadway

\* Denotes connection by membership with the Silk Association of America.

Weinberg, C. W. Dress Trimmings. Salesroom, 23 Howard Street.  
 Weiss, William & Co. Fringes and Dress Trimmings.....  
 Factory and Salesroom,.....534 Broadway.  
 Winfield, A. D. & Co. (See *Paterson, N. J.*).....  
 Salesroom of Selling Agents,.....71 Franklin Street.  
 Williams, P. H. & W. Silk and Worsted Upholstery Trimmings....  
 145 and 147 Fifth Avenue.  
 Wimpfheimer, C. Dress Trimmings.....113 Mercer Street.  
 Wortendyke Manufacturing Co. (See *Wortendyke, N. J.*).....  
 Salesroom of Selling Agents,.....87 Leonard Street.  
 Yondork, William. Dress Trimmings.....156 Orchard Street.  
 Zaissen, William. Silk Dyer.....333 West 62d Street.

## BROOKLYN.

Carpenter, E. Upholstery Trimmings, Cords and Tassels. (Not in operation October, 1880.) 947 Broadway.....Brooklyn, E. D.  
 Estberg, E. Shade Tassels and Cords. Office, 460 Pearl Street, New York.  
 Factory,.....72 to 76 Hamburg Avenue, Brooklyn, E. D.  
 Halsey, A. Designing and Painting on Silk.....  
 287 Union Street, Brooklyn.  
 Hobley Bros. William H. C. K. Higgins, Agent. Belt Ribbons, Dress Trimmings, etc. Salesroom, 107 Grand Street, New York.  
 Factory.....56 and 58 North 1st Street, Brooklyn, E. D.  
 \*Jennings, A. G. Guipure, Thread, Blonde, Brussels and Bretonne Laces, Lace Mitts, Scarfs, Neck Ties and Hair Nets. Salesrooms, 473 and 475 Broome Street, New York.  
 Factory, "Jennings Lace Works," Park Avenue and Hall Street, Brooklyn.  
 Kelty, G. L. & Co. Upholstery, Trimmings, Furniture Coverings and Curtain Materials, Cords, Gimp, Tassels, Fringes, etc. Salesroom, 744 Broadway, New York.  
 Factory,.....197 to 207 10th Street, Brooklyn, E. D.  
 Manchester Gimp Co. Furniture Gimp. Agents, James H. Thorp & Co., 429 Broome Street, New York.  
 Factory corner of North 4th and 5th Streets, Brooklyn, E. D.  
 Maynard, A. & Co. Upholstery Trimmings.  
 Factory and Salesroom. 100 South 6th Street, Brooklyn, E. D.  
 McLure, S. Upholstery and Dress Trimmings, Fringes, Cords, Tassels and Gimp. Factory and Salesroom,.....  
 261 Fulton Street, Brooklyn.  
 Moll, August. Braids. Salesroom, 109 Grand Street, New York...  
 Factory,.....146 to 152 First Street, Brooklyn, E. D.

\* Denotes connection by membership with the Silk Association of America.

Need, Samuel N. Nottingham, Calais and Brooklyn Lace Works.  
(Not in operation, October, 1880.) Heyward Street, cor. Wythe Avenue, Brooklyn, E. D.

Naul, J. Cords and Braids.....128 Myrtle Street, Brooklyn, E. D.

Reitmeyer, William. Fringes and Dress Trimmings. Salesroom, 260 Canal Street, New York.

Factory,.....17 to 27 South Third Street, Brooklyn, E. D.

Soar, Henry, G. H. Nottingham Laces and Hair Nets .....

58 and 60 North First Street, Brooklyn, E. D.

Steinborn & Huppelsberg. Dress Trimmings and Laces .....

57 and 59 Scholes Street, Brooklyn, E. D.

Will, Jacob. Hat Cords....357 South Third Street, Brooklyn, E. D.

Willis, Thomas. Marine Pictures in Silk.....

91 Degrave Street, Brooklyn.

### NEW YORK STATE, Continued.

Ashley, William. (See *Paterson, N. J.*).....

Mills, at..... Fort Plain.

\*Copeutt, William H. & Co. Ribbons, Handkerchiefs, and Piece Goods. Salesroom, 31 Greene Street, New York.

Mills,..... Nepperhan Av., Yonkers.

Dumas & Taber. (See *Paterson, N. J.*).....

Factory, at..... Roslyn, L. I.

\*Funke, Hugo. Ribbons, Organzine and Tram. Salesrooms,.....

23 and 25 Greene Street, New York.

Mills,..... College Point, L. I.

Haiges, M. Dress Trimmings..... 46 Arcade Building, Buffalo.

Hilton, Isaac. Dress Trimmings.....

Factory and Salesroom,.....179 River Street, Troy.

Jewell & Bassett. Central City Ruffling and Lace Goods Manufactory.

43 to 47 Monroe Block, Syracuse.

Lacy, Lawrence. Lace Goods....48 South Salina Street, Syracuse.

Macfarlane, William. Nepperhan Silk Works. Thrown Silk, Sewing Silk and Machine Twist.....

Mills and Salesroom..... Yonkers.

\*Nonotuck Silk Co. (See *Florence, Mass.*).....

Salesroom, at..... Gloversville.

\*Oneida Community. Sewing Silk and Machine Twist. Thomas Handy, Agent. Salesroom, 387 Broadway, New York.

Mills,..... Community.

\*Sauquoit Silk Manufacturing Co. L. R. Stelle, President; Richard Rossmässler, Treasurer. Tram, Organzine and Fringe Silks.....

\* Denotes connection by membership with the Silk Association of America.

LIBRARY OF  
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ALLAHABAD

Factories, Sauquoit, near Utica, N. Y.; Scranton, Pa., and Philadelphia. Salesrooms, cor. Columbia Avenue and Randolph Street, Philadelphia, and 54 Howard Street, New York..... Sauquoit.

\*Silberman, J. & Co. (See *New York, N. Y.*).....

Mill at..... Poughkeepsie, N. Y.

\*Skinner, Geo. B. & Co. Tram, Organzine, Fringe Silk, Sewing Silk and Machine Twist. Salesroom, 27 Mercer Street, New York.

Mills,..... Yonkers.

Vogt, Albrecht. Dress Trimmings.....

116 North St. Paul Street, Rochester.

### OHIO.

Atkins, W. E..... 102 West 5th Street, Cincinnati.

\*Aub, Hackenburg & Co. (See *Philadelphia*.) Salesroom.....

69 West 3d Street, Cincinnati.

Bauer, Adolph. Fringes and Dress Trimmings.....

142 West 5th Street, Cincinnati.

\*Belding, Bros. & Co. (See *Rockville, Conn.*) Salesroom.....

56 West 4th Street, Cincinnati.

Broegelman, F. Upholstery Trimmings.....

204 Vine Street, Cincinnati.

Franz, John. Fringes and Upholstery Trimmings.....

25 Oregon Street, Cleveland.

Hoffmeister, F. Fringes and Passementerie .....

152 West 4th Street, Cincinnati.

Hoffmeister, Louis. Fringes, Tassels, &c.....

104 West 5th Street, Cincinnati.

Mueller, Anton..... 7 East Pearl Street, Cincinnati.

\*Nonotuck Silk Co. (See *Florence, Mass.*) Salesroom.....

88 West 3d Street, Cincinnati.

### PENNSYLVANIA.

#### PHILADELPHIA.

\*Aub, Hackenburg & Co. Sewing Silk and Machine Twist. Salesrooms, 20 North 3d Street, Philadelphia; 15 Mercer Street, New York; 19 Light Street, Baltimore; 69 West 3d Street, Cincinnati; 152 Fifth Avenue, Chicago.

Factory..... 244 to 248 North Front Street, Philadelphia.

Barlow, Noah. Upholstery raw and spun Silks .....

53d Street and Westminster Avenue, West Philadelphia.

\*Belding Bros. & Co. (See *Rockville, Conn.*) Salesroom.....

6th, cor. of Arch Streets, Philadelphia.

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*Brainerd & Armstrong Co. (See <i>New London, Conn.</i> )	Salesroom..
	238 Market Street, Philadelphia.
Bromly & Burns. Dyers of Yarns and Silk Noils .....	4026 Orchard Street, Philadelphia.
Brooks, George & Son. Upholstery and Furniture Coverings. Factory and Salesroom .....	55th Street and Wyalusing Avenue, Philadelphia.
Courts, H.....	163 North 2d Street, Philadelphia.
Coleman, William. Upholstery Trimmings.....	25 North 6th Street, Philadelphia.
Croxton & Wood. (Reported not running, April, 1880.).....	Wayne Station, Germantown, Philadelphia.
*Cutter, John D. & Co. (See <i>Newark, N. J.</i> )	Salesroom.....
	735 Market Street, Philadelphia.
Cunningham, W. B. Upholstery Trimmings. Factory and Salesroom,.....	204 Church Street, Philadelphia.
Davenport, H. Upholstery Trimmings. Factory and Salesroom...	Corner of Mascher and York Streets, Philadelphia.
Davenport, John. Upholstery Trimmings.....	1717 Bodine Street, Philadelphia.
Davenport, George & Edwin. Upholstery Trimmings.....	Susquehanna Avenue and American Street, Philadelphia.
Douredoure & Hensel. Dress Trimmings.....	319 to 323 Garden Street, Philadelphia.
Freyer, H. T. Dress Trimmings. Salesroom, 727 Jayne Street...	Factory,..... 25 South Eighth Street, Philadelphia.
Godshalk, E. H. Fringes. Salesroom, 71 Franklin St, New York.	Factory, cor. of Twelfth and Buttonwood Streets, Philadelphia.
Goldberg, Emil. Fringes and Dress Trimmings.....	122 Onas Street, Philadelphia.
*Graham, J. C. Dress, Cloak and Upholstery Trimmings.....	Factory and Salesroom,.....513 Cherry Street, Philadelphia.
Griswold, W. A. & Co. (See <i>Darby, Pa.</i> ).....	Office,..... 322 Chestnut Street, Philadelphia.
*Hall, L. C. Jr. & Co., Agents. (See <i>Belding Bros. &amp; Co., Rockville, Conn.</i> ).....	Cor. of Sixth and Arch Streets, Philadelphia.
Hansell, S. R. & F. Upholstery Trimmings. (Reported not manufacturing, April, 1880.).....	Salesroom,..... 21 North Fourth Street, Philadelphia.
Harned, L. M. & Co. (See <i>Bristol, Penn.</i> ).....	Salesroom, .. 9 Bank Street, Philadelphia.

\* Denotes connection by membership with the Silk Association of America.

Harrop, J. T. Sewing Silk and Machine Twist.....  
621 Market Street, Philadelphia.

Heltwig, Albert. Skein Silk Dyer.....  
Philadelphia.

Heminway, M. & Sons, Silk Co. (See *Watertown, Conn.*).....  
14 North Fifth Street, Philadelphia.

Hensel, Colladay & Co. Dress Trimmings.....  
Factory and Salesroom, 22 to 24 North Fourth Street, (About  
moving to Seventh Street, near Arch,)..... Philadelphia.

\*Holland Manufacturing Co. (See *Willimantic, Conn.*).....  
Salesroom, 633 Market Street, Philadelphia.

Hooley, B. & Son. Tram, Twist and Fringe Silk.....  
Mill, 319 Garden Street; Office, 226 Market St., Philadelphia.

\*Horstmann, William H. & Sons. Gum Silks, Dress and Cloak Trim-  
mings, Ribbons, Fringes, Floss, Upholstery Trimmings, Coach and  
Carriage Laces and Trimmings, Jacquard Weaving, Military Equip-  
ments, Regalia, Theatrical Goods, Silk Flags, Bunting, Sashes and  
Scarfs.....  
Salesroom, 410 Broadway, New York, and at Factory, cor. of  
Fifth and Cherry Streets, Philadelphia.

\*Hovey, F. S. Sewing Silk and Machine Twist.....  
Salesroom, 248 Chestnut Street, Philadelphia.

Hoyle, Harrison & Kaye. Raw Silks for Upholstery.....  
Cor. of Mascher and Master Streets, Philadelphia.

Hunter, Samuel. Silk Spooling for Upholstery.....  
Rusk's Mill, Trenton and Adams Street, Philadelphia.

Hunter, William & Son. Upholstery Coverings and Tapestries.....  
611 to 617 Dickenson Street, Philadelphia.

\*Itschner (Werner) & Co. Tioga Silk Mill. Ribbons and Hatbands.  
Salesrooms, 712 Market Street, Philadelphia, and 70 Mercer Street,  
New York.....  
Mills, Tioga Station, Germantown, Philadelphia.

Jenkins & Avery. Upholstery Trimmings.....  
313 Race Street, Philadelphia.

Jones, T. & Son. Silk Dyers.....  
110 and 112 Putnam Street, Philadelphia.

Kaufman, Strouse & Co. Scarfs, Ribbons, Fringes and Dress Trim-  
mings..... Corner of 4th and Race Streets, Philadelphia.

Kemper & McAuliffe. Fringes. Factory and Salesroom.....  
33 South 4th Street, Philadelphia.

Landenberger, Chas. H..... 1711 Randolph Street, Philadelphia.

\*Leonard Silk Co. (See *Warehouse Point, Conn.*) Salesroom.....  
235 Arch Street, Philadelphia.

Lipper, M. W. & Co.	Keystone Braid Mills. Dress Trimmings.
Salesrooms, 144 and 146 North 5th Street, Philadelphia;	338
Broadway, New York; and 49 Summer Street, Boston.	
Mills at	Wayne Station and Philadelphia.
Maurer, F. W.	Upholstery Trimmings in Silk and Silk and
Worsted	7 and 9 North 5th Street, Philadelphia.
Montague & White.	Silk Noil Yarns for Raw Silk Tapestries, Reps,
Upholstery Goods and Tassels.	
	Howard and Berks Streets, Philadelphia.
Morel, Charles.	Silk Dyer
	2219 Richmond Street, Philadelphia.
*Oldfield & Bro.	Upholstery Goods
	55th Street and Haverford Road, Philadelphia.
Parks, G. A. & Co.	(See <i>Camden, N. J.</i> ) Salesroom
	34 South 2d Street, Philadelphia.
Perry, Vincent	48 Harvey Street, Germantown, Philadelphia.
Renard, H.	Tram and Fringe Silk Throwster
	319 to 323 Garden Street, Philadelphia.
Revel, Justinian.	Dress Goods and Dress Trimmings
	55th Street and Wyalusing Avenue, Philadelphia.
Ridgeway, Edward.	Upholstery Goods
	62d Street, West Philadelphia.
Roehm, Joseph.	Dealer in Sewing Silk and Twist. Office
	47 South 4th Street, Philadelphia.
Rose, Charles.	Cords, Dress Trimmings and Tassels. Factory and
Salesroom	432 North 3d Street, Philadelphia.
*Sauquoit Silk Manufacturing Co.	(See <i>Sauquoit, N. Y.</i> ) Factory
and Salesroom	
	Corner of Columbia Avenue and Randolph Street, Philadelphia.
Schultheiss, E.	Dress Trimmings and Fringes
	Corner 3d and Poplar Streets, Philadelphia.
Shrack & Sherwood.	Dress and Upholstery Trimmings and Passe-
menterie	231 Market Street, Philadelphia.
*Springfield Silk Co.	(See <i>Springfield, Mass.</i> ) Salesroom
	17 South 4th Street, Philadelphia.
Stead & Miller.	Upholstery Goods
	Coral and Adams Streets, Philadelphia.
Sybert, Josiah B.	Silk and Worsted Goods
	Columbia Avenue, below Tenth Street, Philadelphia.
Vickers & Weston.	Cotton, Wool, and Wool and Silk Hosiery.
Agencies, Colladay, Trout & Co., 24 and 26 Bank Street, Phila-	delphia, and 52 White Street, New York
Factory, Howard Street, cor. Montgomery Avenue, Philadelphia.	

\* Denotes connection by membership with the Silk Association of America.

Walliser, August. Fringes, Cords and Buttons. .... 132 North Eighth Street, Philadelphia.  
 Walliser, Charles. Cords, Millinery Fringes and Passementeries ... 251 North Eighth Street, Philadelphia.  
 Woelpper Bros. Upholstery Trimmings. .... Lehigh Avenue and Third Street, Philadelphia.

### PENNSYLVANIA, Continued.

Adelaide Silk Factory. .... Mill, at Allentown.  
 \*Brainerd & Armstrong Co. (See *New London, Conn.*) ....  
 Salesroom, .... 4 Fifth Avenue, Pittsburgh.  
 \*Dexter, Lambert & Co. (See *Paterson, N. J.*) ....  
 Belmont Mill, .... Hawley.  
 Griswold, W. A. & Co. Spun Silk. Office, 322 Chestnut Street, Philadelphia. Mills, at Darby.  
 Harned, L. M. & Co. Upholstery Trimmings. ....  
 Salesroom, 9 Bank Street, Philadelphia. Factory, Bristol.  
 \*Sauquoit Silk Manufacturing Co. (See *Sauquoit, N. Y.*) ....  
 Mills, at .... Scranton.

### RHODE ISLAND.

R. I. Braiding Machine Co. G. K. Winchester, Treasurer; B. B. Edwards, Resident Agent. Silk, Mohair and other Braids. .... 89 Aborn Street, Providence.

### UTAH TERRITORY.

Egbert, D. K. Dress Goods and Sewing Silk. .... Kaysville.  
 Utah Silk Association. Hon. William Jennings, President; P. A. Schettler, Treasurer; Hon. Alex. C. Pyper, Superintendent. Ribbons and Silk Culture. Factory, City Creek Kanyon. Office, Salt Lake City.

### VERMONT.

Stearns, J. F. Sewing Silk and Twist. ....  
 Mills and Salesroom, .... Brattleboro.

### VIRGINIA.

Old Dominion Manufacturing Co. M. Umstadter, President. Embroideries, .... Norfolk.

### CANADA.

\*Belding, Paul & Co. Sewing Silk and Twist. (See *Rockville, Conn.*)  
 Salesroom and Mill, 28 and 30 St. George Street, Montreal.  
 Canada Silk Co. A. M. Foster, Pres.; C. Bailis, Sec. and Treas.; Reuben Ryle, Manager. Sewing Silk, Machine Twist and Dress Goods. .... Montreal.  
 Corriveau & Co. Plain and brocaded broad Silks. .... Montreal.

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## IMPORTERS OF RAW SILK.

## NEW YORK.

*Adachi, Nanishiro .....	46 Murray Street
*Auffmordt, C. A. & Co. ....	33 and 35 Greene Street.
*Blydenburgh, Jesse S. ....	66 Pine Street.
*Carter, Hawley & Co. ....	106 Water Street.
*Caswell, John C. & Co. ....	87 Front Street.
Fearon, Low & Co., Shanghai .....	Agency, 112 Front Street.
*Fogg, H. & Co. ....	32 Burling Slip.
Fraser, Farley & Co., Yokohama .....	Agency, 64 South Street.
Frazer & Co., Yokohama .....	Agency, 74 South Street.
*Gibbes, A. H., Agent of Swire Bros., Shanghai .....	93 Wall Street.
*Hadden & Co. ....	109-111 Worth Street.
*Kai, Oria, Agent of Yamato Trading Co., Japan .....	51 Mercer Street.
Lane, George W. & Co. ....	107 Water and 93 Front Streets.
*Low, A. A. & Bros. ....	31 Burling Slip.
*Low, C. Adolph & Co. ....	42 Cedar Street.
Luckemeyer & Schefer, Agents of H. Ludwig & Co., Yokohama....	472 Broome Street.
*Ludwig, E., Agents of Arlès Dufour & Co., Lyons .....	454 Broome Street.
*Milton, Wm. F. & Co. ....	159 Maiden Lane.
Morewood & Co. ....	71 South Street.
Phillips, J. C. & Co. ....	130 Water Street.
*Pomeroy, S. W., Jr., Agent of Russell & Co., Hong Kong .....	59 Wall Street.
*Ryle, William .....	54 Howard Street.
*Sato & Arai, Agents of Shiro Tashiro, Yokohama. ....	55 Walker Street.
*Smith, Benjamin D., Agent of Vogel & Co., Canton .....	113 Water Street.
*Smith, Wm. H. & Son .....	77 William Street.
Stens, Wm. & Co. ....	477 Broome Street.
*Walker, John T. ....	81 Pine Street.
*Wetmore, Cryder & Co. ....	74 South Street.
*Wood, Payson & Colgate .....	64 Pine Street.
*Yamada, O., & M. Fukui .....	58 Walker Street.
*Yamao, K., Agent of Mitsui & Co., Yokohama .....	46 Murray Street.

## IMPORTERS OF SPUN SILK.

Thairwall, Wm. C. ....	38 Lincoln Street, Boston.
Walmsley, Philip & Co. ....	353 Canal Street.

## BROKERS IN RAW SILK.

## NEW YORK.

*Allen, H. S.....	27 Greene Street.
*Busch, P.....	107 Grand Street.
*O'Donoghue, D.....	51 Greene Street.
*Haywood, Geo. M.....	90 Franklin Street.
*Johnson, Rowland.....	54 Beaver Street.
*Richardson, B. & Son.....	5 Mercer Street.
*Simes, Charles F.....	46 Howard Street.
Waldron, Hampden.....	1 Lispenard Street.

NEW YORK SILK AND WOOL CONDITIONING  
WORKS.

*Poidebard & Muzard.....	18 Mercer Street.
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\* Indicates membership in the Silk Association of America.

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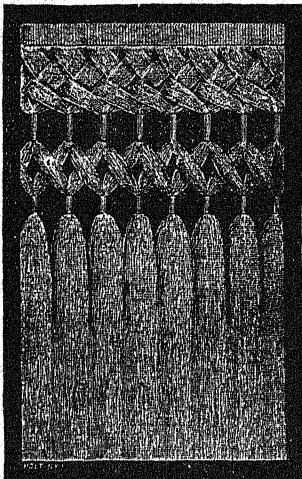
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